

# SPORT **Aerobatics**

July 2015

OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB



# Pitts

70th Anniversary  
Celebration





THE LINCOLN  
MOTOR COMPANY

EAA AIRVENTURE  
**OSHKOSH**  
2015

# COME VISIT US

*Another Great Experience with Ford at AirVenture*



**DIERKS  
BENTLEY**

## Ford Proudly Presents

**Dierks Bentley in Concert:** Opening-night concert on Monday, next to the Ford Hangar on Boeing Plaza

**Hotel California – The Original Eagles Tribute Band in Concert:** Experience the Grammy Award-winning sounds that defined a generation. Close your eyes and feel certain you're listening to the original Eagles, live, on Saturday night at 6:30 pm next to the Ford Hangar

**Fly-In Theater:** Nightly at Camp Scholler, epic blockbuster movies and classic aviation-themed films: **Sun:** Flying the Feathered Edge: The Bob Hoover Project and Living in the Age of Airplanes, **Mon:** Interstellar, **Tue:** Unbroken, **Wed:** Edge of Tomorrow, **Thu:** Planes: Fire & Rescue, **Fri:** Apollo 13, and **Sat:** Battle of Britain. Fabulous presenters and free popcorn!

**Free Ice Cream:** Nightly deliveries; watch for the Ford Transit Connect Van



## Uniquely Ford

**Apollo Edition Mustang:** See this one-of-a-kind build, celebrating NASA's Apollo missions and benefitting the Young Eagles program

**Ford Performance Lineup Vehicles:** See the all-new Ford GT Concept and F-150 Raptor Concept, Mustang GT 350R, Focus RS, and ST vehicles

**Lincoln Continental is Back:** View the stunning Lincoln Continental Concept and all of the Lincoln vehicles

**Ford Performance Simulator:** Experience this race-inspired ride where your driving skills are pushed to the max

**"No Boundaries" Gyrottron:** Send yourself into a three-dimensional orbit in this amazing self-propelled experience

**Model T Experience:** Take a break and tour the grounds in a Model T ride, only at the Ford Hangar

**Family Fun Throughout the Week:** F-150 Lil' Truckers Power Wheels, Raptor Rock Wall, Tough Tumblers bungee trampolines and other fun activities for the kids

**Ford Autograph Headquarters:** Autographs from celebrities, air show performers and living legends

**"Lincoln Touch" Upper Body Massage:** Enjoy a complimentary therapeutic experience, exclusively in the Lincoln Pavilion

**Lincoln Lounge:** Stay in touch with family and friends with our free email stations

**Free Collectibles:** Limited edition hats provided daily

## The Privilege of Partnership

EAA members are eligible for special pricing on Ford Motor Company vehicles through Ford's Partner Recognition Program. To learn more about this exclusive opportunity for EAA members to save on a new Ford vehicle, please visit [www.eaa.org/ford](http://www.eaa.org/ford).



LINCOLN



**partner**  
recognition  
VEHICLE PURCHASE PLAN

*This year was special. It became even more distinctive since the 70th anniversary of Curtis Pitts' first test flight of a brand new biplane design neared, and a special commemoration was in the works.*

—Evan Peers

## FEATURES

**10** **Thank You, Mr. Pitts**  
by Tom Poberezny

**16** **Check Pilot Report**  
by Bill Dodd

**20** **Pitts Flight Deck: The box is yours**  
by Evan Peers

**24** **Ben Lowell Aerial Confrontation**  
by Julie and Jonathan Apfelbaum



EVAN PEERS

## DEPARTMENTS

**3** / President's Column

**4** / Lines & Angles

**8** / Safety

**30** / Contest Calendar

**32** / Classifieds & Flymart

## THE COVER

At first this may appear to be an unremarkable image.

However, look in closer...

Chapters 38, 49, and 36 came together over the Coalinga, CA "Western Showdown" contest to celebrate the anniversary of the remarkable Pitts Special.

Included in the flight are six distinct variants covering all the decades between 1960's and 2000's, and including the oldest flying Pitts in the USA.

Flying are Mitch Robinson (N8L, S1C, 1963, Ch.38), Casey Erickson (N2968G, S1D, 1966, Ch.36), Sammy Mason (N39XP, S1S, 1976, Ch.49), Chris Olmsted (N49BR, S2A, 1980, Ch.49), Ken Erickson / Tutima Academy (N114PS, S2C, 1998), and Yuichi Takagi (N8061J, S2S, 2003, Ch.38). Photo pilot Melissa Courtney; Safety observer Howard Kirker (Ch.38). Mission planning assistance by Bill Stein, Ken Erickson, and Randy Howell. Photo by Evan Peers (Ch.38).





# SPORT Aerobatics

OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB

**PUBLISHER:** Mike Heuer

**IAC MANAGER:** Trish Deimer-Steineke

**EDITOR:** Reggie Paulk

**CONTRIBUTING AUTHORS:**

Julie Apfelbaum	Mike Heuer
Jonathan Apfelbaum	Reggie Paulk
Tim Brill	Evan Peers
Bill Dodd	Tom Poberezny

**IAC CORRESPONDENCE**

International Aerobatic Club, P.O. Box 3086  
Oshkosh, WI 54903-3086  
Tel: 920.426.6574 • Fax: 920.426.6579  
E-mail: [reggie.paulk@gmail.com](mailto:reggie.paulk@gmail.com)

**ADVERTISING**

Vice President of Business Development:  
Dave Chaimson [dchaimson@eaa.org](mailto:dchaimson@eaa.org)

Advertising Manager:  
Sue Anderson [sanderson@eaa.org](mailto:sanderson@eaa.org)

Business Relationship Manager:  
Larry Phillip [lphillip@eaa.org](mailto:lphillip@eaa.org)

**MAILING:** Change of address, lost or damaged  
magazines, back issues.

**EAA-IAC Membership Services**  
Tel: 800.843.3612 Fax: 920.426.6761  
E-mail: [membership@eaa.org](mailto:membership@eaa.org)

The International Aerobatic Club is a division of the EAA.

EAA® and SPORT AVIATION®, the EAA Logo® and Aeronautica™ are registered trademarks and service marks of the Experimental Aircraft Association, Inc. The use of these trademarks and service marks without the permission of the Experimental Aircraft Association, Inc. is strictly prohibited. Copyright © 2015 by the International Aerobatic Club, Inc. All rights reserved.

The International Aerobatic Club, Inc. is a division of EAA and of the NAA.

**A STATEMENT OF POLICY** The International Aerobatic Club, Inc. cannot assume responsibility for the accuracy of the material presented by the authors of the articles in the magazine. The pages of *Sport Aerobatics* are offered as a clearing house of information and a forum for the exchange of opinions and ideas. The individual reader must evaluate this material for himself and use it as he sees fit. Every effort is made to present materials of wide interest that will be of help to the majority. Likewise we cannot guarantee nor endorse any product offered through our advertising. We invite constructive criticism and welcome any report of inferior merchandise obtained through our advertising so that corrective measures can be taken. *Sport Aerobatics* (USPS 953-560) is owned by the International Aerobatic Club, Inc., and is published monthly at EAA Aviation Center, Editorial Department, P.O. Box 3086, 3000 Poberezny Rd., Oshkosh, WI 54903-3086. Periodical Postage is paid at Oshkosh Post Office, Oshkosh, Wisconsin 54901 and other post offices. Membership rate for the International Aerobatic Club, Inc., is \$45.00 per 12-month period of which \$18.00 is for the subscription to *Sport Aerobatics*. Manuscripts submitted for publication become the property of the International Aerobatic Club, Inc. Photographs will be returned upon request of the author. High-resolution images are requested to assure the best quality reproduction. **POSTMASTER:** Send address changes to *Sport Aerobatics*, P.O. Box 3086, Oshkosh, WI 54903-3086. CPC 40612608

EST. 1945

# Pitts

N22E

## ANNIVERSARY EXHIBITION SEVENTY YEARS

IAC PAVILION AT AIRVENTURE  
JULY 20-26, 2015



**MIKE HEUER**

COMMENTARY / IAC PRESIDENT, IAC 4

Please send your comments, questions, or suggestions to: [mike@mheuer.com](mailto:mike@mheuer.com)

## The “I” in IAC

**OVER THE YEARS IN MY** international travels and meeting aerobatic enthusiasts from around the world, I have frequently been asked the question as to why the IAC calls itself “international.” Since the bulk of our membership resides in the United States, and the IAC also runs the U.S. National Aerobatic Championships and sends teams overseas to compete in world competitions, it is a valid question. It goes back to our early history and is worth explaining.

But before I get to that, let me report on how successful we have been in expanding our membership around the world. As of today, we have 455 IAC members residing outside the United States. This represents about 12 percent of our total membership. Of these, the vast majority is in Canada—we have 166 members in that country. Sharing a common border has led to a lot of cooperation between groups and chapters in both of our countries, and it has been beneficial to all.

Interesting to note is the next highest number of members overseas are from Germany. We have 33 Germans as IAC members, with Australia almost tied at 32 members. In fourth place is Brazil with 27 members. Of course, out of the 37 countries our members come from, there are a few with just one lone member—Ireland, Kenya, Latvia, Qatar, and Russia. We are proud to have all of them as a part of our IAC family.

Since all of the IAC’s sanctioned competitions occur in America and much of our emphasis is on U.S.-related issues and programs, it is good to ask why our foreign friends

join. My belief is that we all share a deep love of aviation, aerobatics, airplanes, and competition, along with a desire to share information and learn from each other, that knows no national boundaries. *Sport Aerobatics* is the membership benefit that reaches all members, and it has been the source of hundreds of articles through the years since it was first published in late 1971. The value of this information and its exchange far exceeds the dollars someone spends in dues, and those people from around the world who have joined us seem to agree. They can’t get it anywhere else.

As the world has grown smaller due to international trade, the types of aircraft we fly here and the accessories we use have expanded. Several of the U.S. team pilots competing in France this August will be flying German-built Extras. Others will be using propellers made by MT in Germany—one of our Nationals sponsors by the way. But even the German- and French-built aircraft out there employ American-made Lycoming engines. Aside from the aircraft, having members from all over the world makes the IAC and sport aerobatics richer, and the international cooperation I have seen in writing rules for competition has been superb.

How did it all start? The IAC founders intended our organization to be a national body at first. EAA President Paul Poberezny informed us there were some Canadians who would like to join and form chapters to the north, so the decision was made to call ourselves the International Aerobatic Club. It really wasn’t more complicated than that. Before Canada formed

its own national aerobatic organization—Aerobatics Canada—there were chapters and competitions held there that were open to IAC members south of their border. I’m proud to mention that I was even the Canadian National Advanced Champion one year—before they let your country of origin get in the way of awarding titles. That trophy resides in my office to this day.

The IAC used to have chapters in Scandinavia as well, and American IAC judges school instructors made the trek to Sweden to teach judges schools. Norway remains a big supporter today with 23 members, and all of the Scandinavian members have been friends and colleagues for a long time.

As time has marched on, most countries with aerobatic activities have formed their own national associations, which has been good news as interest in aerobatics has grown. But oftentimes, before those national clubs took root, it was the IAC that provided guidance and information. We still do today—not only for the 455 people who are members from outside the United States, but for contest organizers and rules authors who have adopted our multi-category system of competition and, in some cases, even retained their English names.

Over the years and at various times, we have talked about changing the IAC’s name. Then I think of those hundreds of members who are not Americans but who feel a part of aerobatics and the IAC just as much as we do. The friendships you make from around the world cannot be matched. That’s what the “I” in IAC means to me, and I am thankful for it.

**IAC**



## **Notice of Election March 31 through July 21, 2015**

The IAC board of directors invites members to vote in the 2015 election for club officers and directors. Balloting opened on Tuesday, March 31, at 10:43 a.m. CDT and closes on Monday, July 21, at 6:00 p.m. CDT. Balloting this year will be electronic only.

We encourage members to vote securely online at [www.IAC.org/2015-board-election](http://www.IAC.org/2015-board-election). Voting via the IAC website requires logging in using a member-specific user name and password. Our webmaster ([webmaster@iac.org](mailto:webmaster@iac.org)) can provide any assistance needed. The ballot as well as candidate profiles can be found on that page.

A member may not vote in this election in person at the annual meeting; it must be done by electronic ballot.

A presidential-appointed Ballot Certification Committee will tabulate the election results and announce the election outcome at the annual meeting of members on Friday, July 24, 2015. That meeting will convene at 8:30 a.m. at the IAC Pavilion in Oshkosh, Wisconsin.

*By order of the board of directors,*

Lynne Stoltenberg, IAC Nominating Committee Chair  
DJ Molny, IAC Ballot Certification Committee Chair

## **IAC Annual Meeting**

The International Aerobatic Club will hold its annual meeting of the membership on Friday, July 24, 2015, at the IAC Pavilion during EAA AirVenture in Oshkosh, Wisconsin. The meeting will begin at 8:30 a.m.

Agenda for the meeting will include:

- President's Report
- Treasurer's Report
- IAC Awards Announcements
- IAC Election Results
- Old and New Business
- Induction of New Officers and Directors

All IAC members are urged to attend and are encouraged to bring up any matters of business or concern you may wish. The meeting will be chaired by IAC President Mike Heuer, and many of the members of the board of directors will be in attendance.

## **Pitts Anniversary at EAA AirVenture 2015**

With just a few weeks before the opening of EAA AirVenture 2015, IAC volunteers and staff are furiously at work putting the final touches on renovations to the IAC Pavilion. These include the preparation of the special Pitts 70th Anniversary Exhibit, which will be featured in the interior of the pavilion, the preparation of a new sales area in the pavilion, and planning for the parking and exhibit of over 70 Pitts Special aircraft that have pre-registered for the event. As of June 12, EAA has pre-registered 76 Pitts Specials, and we expect more registrations prior to the event.

The Pitts exhibit will feature 16 vertical panels hanging from the ceiling in the main room of the pavilion, along with dozens of photographs that document the history of the Pitts and the pilots who flew them to fame and honor. The renovations to the building and the Pitts exhibit were designed by IAC member Margo Chase. The execution of the renovations has been planned by IAC secretary Lynn Bowes, along with several volunteers who have spent hours consulting on the plans as well as carrying out the physical work in Oshkosh to put it all in place. The IAC Pavilion will open at 8:00 a.m. CDT on Monday, July 20, and will remain open throughout the week. IAC members are invited to stop by, view the exhibit, buy some of the new IAC Premium Line merchandise, visit with IAC officers and directors, attend the seminars that will be held all through the week, and socialize with other IAC members who will be attending.

Members should also note that the IAC will once again host its own gathering at 6:00 p.m., Friday, July 24, in the Nature Center. We will have free food and drink there for everyone and expect a larger turnout than ever due to the influx of all the Pitts airplanes. Our database shows that nearly all the Pitts flying into AirVenture are owned by IAC members—some of whom normally do not bring their aircraft. Be sure to put the gathering in the Nature Center on your calendar if you will be attending AirVenture.

Because of the Pitts anniversary, the IAC is offering seminars at Oshkosh that are oriented toward that aircraft, with a mix of other good information as well. Our seminars are always well attended, and the schedule will be posted on-site and on the IAC webpage.

Here is what our IAC Seminars Chair Lorrie Penner has lined up over the last several months:



## Tuesday, July 21

- 8:30–9:45 a.m. Billy Werth – Getting Your Head Around Unusual Attitude Recoveries  
10:00–11:15 a.m. Skip Stewart – Pitts Modifications  
11:30 a.m. to 12:45 p.m. Dagmar Kress – Basic Aerodynamics and Spin Recoveries  
1:00–2:15 p.m. Kevin Kimball – The Pitts Model 12

## Wednesday, July 22

- 8:30–9:45 a.m. Don Taylor – Pitts Aircraft & Its Effect on Aerobatics, Nationally/Internationally  
10:00–11:15 a.m. Gary Debaun – Buying a Used Pitts  
11:30 a.m. to 12:45 p.m. Bill Finagin – Spins and Emergency Recoveries  
1:00–2:15 p.m. Johnny White – Pitts Maintenance Tips

## Thursday, July 23

- 8:30–9:45 a.m. Steve Wolf – Rigging Your Pitts and Spins as a Maneuver  
10:00–11:15 a.m. Budd Davisson – Pitts Breed: Various Models – Which Is Best for You?  
11:30 a.m. to 12:45 p.m. Michael Church – Aerobatics After Primary Training: The Best Choice  
1:00–2:15 p.m. Steve Johnson – RVs and Aerobatics

## Friday, July 24

- 8:30–9:45 a.m. IAC Annual Meeting  
10:00–11:15 a.m. Budd Davisson – The Pitts Landing Myth: Anyone Can Do It. . .No, Really!  
11:30 a.m. to 12:45 p.m. Don Weaver – Basic Aerodynamics of Aerobatics, Part 1  
1:00–2:15 p.m. Don Weaver – Basic Aerodynamics of Aerobatics, Part 2

## Saturday, July 25

- 8:30–9:45 a.m. Will Berninger – IMAC: Scale Aerobatic Competition  
10:00–11:15 a.m. Dave Dent – How to Rig a Pitts: The Easy Way  
11:30 a.m. to 12:45 p.m. Luca Burtossio – Glider Aerobatics  
1:00–2:15 p.m. Michael Lents – Fostering Skill: Competition for First-Time Competitors

While every Pitts attending AirVenture this year is “special,” there are a few noteworthy airplanes that have registered and have significance in aerobatic history, as follows:

### Pitts S-1C N125RA

**Owner/Pilot—Robert Armstrong, Bishop, Georgia**

This S-1C has competed in all IAC categories of competition and first appeared on the national scene in 1981 in Robert’s hands. He later flew the airplane in Unlimited competition, qualified for the U.S. Team, and competed in this aircraft at the World Aerobatic Championships in Le Havre, France, in 1992.

### Pitts S-1S N169CM

**Owner—Gregory Baker, Woodland Park, Colorado**

This is the aircraft that Debby Rihn-Harvey flew in the World Aerobatic Championships in the 1980s.

### Pitts NX86401

**Owner—Peter Gauthier, Sonoma, California**

This Pitts, now under construction, is a replica of the second Pitts that Curtis built and was initially flown in air shows by Phil Quigley. In the late 1940s, it was purchased by Betty Skelton, who flew it in its original livery for a short time, but later painted it in the scheme it is known for today and re-registered the aircraft as N22E. The original N22E *Little Stinker*, resides in the Smithsonian’s collection. Peter’s Pitts is a re-creation of the Quigley version.

### Pitts S-2AM N8028

**Owner—Dan McGarry, Hinsdale, Illinois**

Dan is one of the original IAC members (IAC 30) since the 1970s. N8028 started life as a stock S-2A but has been extensively modified over the years for more performance, including a turbocharged engine. Dan flew it in the Advanced category for decades.

### Pitts S-1A N2004

**Owner—Don Rhynalds, Bealeton, Virginia**

The oldest S-1A in the world and built by Curtis Pitts himself.

### Pitts S-2A N80003

**Owner—Charlie Sikes, Auburn, Alabama**

This S-2A is the airplane in which the famous air show pilot Jim Holland performed in the 1970s. It is also the airplane actor William Shatner flew with Jim on a sports TV program.

### Pitts S-1 N8M

**Owner—Ted Teach, Dayton, Ohio**

This Pitts is a replica of the 1950 national aerobatic contest winner, Caro Bailey’s airplane. It was the second S-1 built and sold by Curtis Pitts.

### Pitts S-1-11B N111PU

**Owner—Sean Worthington, Campbell, California**

One of only about 10 Pitts S-1-11Bs in existence and one of the last aircraft Curtis designed, this model of the Pitts was flown at the World Aerobatic Championships in 1996 by Robert Armstrong. N111PU was built by Steve Wolf and features custom wing-root fairings to eliminate tail buffet and ram air induction to increase power to the cold-sump Lycoming IO-540. It is the only S-1-11B registered for AirVenture.



U.S. Unlimited Aerobatic Team are Rob Holland, Ben Freelove, Jeff Bourbon, Goody Thomas, Brett Hunter, Mark Nowosielski, Melissa Pemberton and Mike Gallaway.

## U.S. Unlimited Team Prepares for World Championships

The U.S. Unlimited Aerobatic Team held its last training camp June 1-9 in Kokomo, Indiana, before its departure for Europe. Team members were hosted by IAC members Mike and Pam Wild, who rolled out the red carpet for them and made the local arrangements. All team pilots participated in the flying sessions under the tutelage of U.S. team coach Coco Bessiere of France. Coco flew in from Paris and was there for the entire camp. Team pilots have reported excellent progress in their training and preparations, and will be in superb form for their competition flights at the WAC. Team aircraft will be shipped on various dates in the weeks ahead and will be arriving in Albert, France, which has been selected as the team training site in Europe. Albert is located in the

Picardy region of France and is about 100 miles north of Paris. After several days in Albert, the team will proceed to Chateauroux, the site of the WAC, for pre-contest practice in the box.

The 28th FAI World Aerobatic Championships will begin on August 20, 2015, and we will feature full reports on the competition in this magazine as well as our other media outlets.

We also urge IAC members to donate and financially support the team as we build our war chest for France and beyond. Since the IAC resumed the responsibility of administering and managing the teams in November 2014, we have begun a fundraising campaign to offset some of the team's expenses. That said, the majority of expenses will be borne by the pilots themselves, including shipping their aircraft to France. Go to [www.IAC.org](http://www.IAC.org) for a link on the home page to donate.

## Social Media and the IAC

In the past few months, our IAC volunteers and staff have accelerated their use and posting on various media. While *Sport Aerobatics* magazine used to be our only official publication, we now have *In the Loop*, a monthly e-newsletter that reaches about 10,000 people, our IAC website ([www.IAC.org](http://www.IAC.org)), Facebook, and Twitter. We urge you to take advantage of all these information outlets.

For your reference, here are the names of our accounts and sites:

IAC official website: . . . . . [\*\*www.IAC.org\*\*](http://www.IAC.org)

IAC Twitter: . . . . . [\*\*@IACHQ\*\*](https://twitter.com/IACHQ)

U.S. Nationals Twitter: . . . . [\*\*@USNAcro\*\*](https://twitter.com/USNAcro)

IAC Facebook: . . . . . [\*\*www.Facebook.com/EAAIAC\*\*](https://www.facebook.com/EAAIAC)

Team Facebook: . . . . . [\*\*www.Facebook.com/USUnlimitedAerobaticTeam\*\*](https://www.facebook.com/USUnlimitedAerobaticTeam)

Team website: . . . . . [\*\*www.UnlimitedAerobaticsUSA.com\*\*](http://www.UnlimitedAerobaticsUSA.com)

Nationals Facebook: . . . . . [\*\*www.Facebook.com/USNationalAerobaticChampionships\*\*](https://www.facebook.com/USNationalAerobaticChampionships)

IAC President Twitter: . . . . [\*\*@Mike\\_Heuer\*\*](https://twitter.com/Mike_Heuer)

As we ramp up to events like AirVenture, the WAC, and the U.S. Nationals and as they are underway, Facebook postings and tweets will increase considerably to keep everyone informed, so please have a look or subscribe today.

**IAC**



## Countdown to the 2015 Nationals

by Gary DeBaun

Nationals Contest Director

Things are falling into place quite nicely for the 2015 version of the U.S. National Aerobatic Championships. Here is a list of the things that have been accomplished over the last couple months:

- The IAC Welcome Trailer has been secured, along with enough funds to support it. It will have air conditioning; Wi-Fi; a fridge stocked with cold drinks and fruits; a coffee maker plus coffee, cups, and sugar; and a hot water maker with oatmeal packets and bowls.

- All coffee and donuts for the morning briefings have been secured and funded. Morning coffee will be from the Java House up the road from the airport.

- All volunteer lunches have been secured and funded.

- All 12 trailer slots have been reserved. There will be a \$25 per night charge for all trailer slots to pay for utilities.

- Hangar space for all aircraft has been secured. Mike Plyler will be charging the normal \$100 per aircraft for the contest period. Space has also been secured at Lake Texoma Jet Center (please fill out the online paperwork on the Nationals website or the Texoma Jet Center website, [www.TexomaJet.com](http://www.TexomaJet.com)).

- The west side judges line is being cleaned up and treated for fire ants.

- Sponsorships are still moving forward. 5g Aviation is funding Wi-Fi for the IAC Welcome Trailer.

If you are planning to rent a car for the event, please go to the Lake Texoma Jet Center website and fill out the appropriate paperwork—this is very important for you to secure your car reservation.

An opening ceremony will take place just prior to the initial pilot briefing on Sunday. Ellyn Robinson, our volunteer coordinator, is working hard to make this an awesome opening ceremony.

The Lake Texoma Jet Center will be sponsoring the Thursday night barbecue at the briefing hangar.

Finally, there are schedule changes in the works; please continue to monitor our website at [www.IAC.org/us-national-aerobatic-championships](http://www.IAC.org/us-national-aerobatic-championships) and our Facebook page for these changes.

IAC



# You Can't Scare Us!

## We Can Teach ANYONE to Land a Pitts!

- 44 Years Experience.
- Train for Skybolt, Eagle, Model 12, S-1S, etc.
- We love crosswinds.
- We love low time pilots.
- We love narrow, short runways.
- Yeah, we love akro too.

**Stay at "Our Place"—Families Welcome!**

**Pool Area**

**Budd Davisson's Plus 5 Aviation, LLC**  
602-739-2045 • [buddairbum@cox.net](mailto:buddairbum@cox.net) • Phoenix, AZ 85028

**Visit us at [www.airbum.com](http://www.airbum.com)**



## WITH YOUR HELP... WE CAN TAKE ON THE WORLD

**DONATE TODAY! The team needs you.**  
Help support the US team in their quest for gold!  
Visit [www.iac.org](http://www.iac.org) and click donate.

<b>DONATE \$2,500.00</b> Receive an official team jacket, ball-cap, embroidered polo and autographed poster plus your name on the team aircraft	<b>DONATE \$500.00</b> Receive a team ball-cap & embroidered polo
<b>DONATE \$1,000.00</b> Receive an official team jacket, ball-cap, embroidered polo and autographed poster	<b>DONATE \$100.00</b> Receive an official team t-shirt and ball-cap
	<b>DONATE \$50.00</b> Receive an autographed poster

The US Unlimited Aerobatic Team is selected and administered by the International Aerobatic Club, Inc. IAC is a non-profit, IRS 501(c)(3) corporation to which donations may be tax-deductible under the provisions of the Internal Revenue Code. Photography by Evan Peers/Airspace Media.



**TIM BRILL**  
COLUMNS / IAC SAFETY CHAIR

tim@aerobaticcompany.com

# Thoughts on the Cross-Controlled Stall

## The dangers of the skid

**THE FOLLOWING IS TAKEN FROM** my experience flying the 8KCAB Super Decathlon.

We all know that an airplane will stall when it exceeds its critical angle of attack. We also know that when the airplane exceeds the critical angle of attack, the ailerons aerodynamically have the opposite effect of what most pilots think. In other words, although the aileron deflection in normal flight and stalled flight is the same, the effect will be the opposite.

Consider in normal flight... if, say, the left wing drops, pilots use right aileron to “lift” the left wing. Why? Because the downward-deflected aileron on the left wing means the left wing is now at a higher angle of attack, meaning more lift plus more drag (adverse yaw). Now move into stalled flight where the lift/drag trends diverge, meaning the wing generates less lift plus more drag, and that same left wing now generates less lift, meaning, the left wing “drops” more, plus way more yaw to the left. This roll coupled with yaw equals a spin!

The big problem when students stall an airplane is *yaw*. Remember, from the pilot’s perspective, yaw is always an ear-to-ear movement of the nose of the airplane—inclinometer ball be damned! Students don’t often consider the effect of the ailerons (adverse yaw) and typically do not know how to effectively use the rudder. Remember, the rudder input is always two parts, applied *then* neutral. In other words, wiggle your feet.

Next, aside from something being

broken, fundamentally there are only two pilot-induced pro-yaw flight conditions. The first is when roll and yaw are in the *same* direction: the *skid*. The other is when roll and yaw are in *opposite* directions: the *slip*.

**The big problem  
when students stall  
an airplane is *yaw*.  
Remember, from the  
pilot’s perspective,  
yaw is always an  
ear-to-ear  
movement of the nose  
of the airplane—  
inclinometer ball  
be damned!**

Skids are stall- and spin-prone. Do not skid! Slips are spin-resistant (otherwise the FAA would not show pilots how to slip to a landing) and are mostly stall-resistant (as the fuselage begins to generate more and more of the lift). Of course, you can transition from a slip into a skid if you get sloppy in moving the aircraft controls.

In the Decathlon, if we are in a slip and bring the power to idle, then increase the elevator back-pressure until we stall, what you will notice is the aerodynamic buffeting caused by the stall. Specifically, the back end of the airplane flying through the lump air spilling

off the wings. But there is no directional control loss.

Now, in a typical high-wing Cessna, the effect of stalling in a slip (cross-controlled) will result in the airflow over the rudder being reduced. So, the airplane will go off heading toward the down wing. It will also transition from the slip (cross-controlled) into the skid, then into the spin. In this case the spin will be, if I am correct, toward the down wing.

In a typical low-wing airplane, like a Piper, the effect of stalling in a slip (cross-controlled) will result in the airflow over the high-wing aileron being reduced. So, the airplane will first go to a wings-level attitude. It will then transition from the slip (cross-controlled) into the skid, then into the spin. In this case the spin will be, if I am correct, toward the applied rudder. In other words, the pilot will normally stop doing anything when the wings are level, typically not noticing that the control inputs are (say if we begin from a slip to the right) full left rudder and full elevator aft, total pro-spin inputs.

Here are a few things to remember. First, students *have* to take notice of where they have positioned the control inputs. If they hold the elevator aft (assuming upright flight) and hold the rudder, they’ll get a spin. Next, the skid is always more dangerous than a slip. Yet it is the slip that is technically cross-controlled. So, which is worse? The cross control and the cross-controlled stall is not necessarily bad, provided you do not let it transition into a skid, which can then transition into a spin.

**IAC**



# THERE'S NOTHING LIKE A PITTS



## PITTS PILOTS ARE SPECIAL

And it is special to be able to fly a Pitts. It fits you like a glove, is a most honest airplane, does everything you ask it to, and with 260 hp and a +6, -5 design it does it IMMEDIATELY. Virtually telepathic.

So, if you want to take one for a spin, a loop or a roll, call us.

**CALL 307.885.3151 OR VISIT AVIATAIRCRAFT.COM**

**AVIAT AIRCRAFT INC.** P.O. BOX 1240 AFTON, WY 83110 HUSKY ★ PITTS ★ EAGLE

# Thank you, Mr Pitts

## PART 1

BY TOM POBEREZNÝ

**Editor's Note:** This article is the first of a two-part series originally appearing in the May 1973 issue of Sport Aviation.

Late in March, I had the opportunity to attend an EAA Chapter Council Meeting at Iowa State University in Ames, Iowa. At the evening banquet, I showed the film *We Came To Win*, which is a documentary on the United States victory at the 7th World Aerobatic Championships in Salon de Provence, France.

As many of you know, the U.S. Team had the good fortune of winning the lion's share of gold medals in addition to the team and individual championships. I can attest to the fact that the U.S. Team practiced hard and was well-prepared to defend its world title. But while watching the film, I couldn't help but think that the United States had two additional weapons on its side. One was a tiny biplane capable of performing aerobatic maneuvers better than any other airplane of its type in existence. The other was a slow-talking, easy-going gentleman with the wit and common sense of a Will Rogers and the tenacity of a bulldog.

Throughout the film, you could see the tiny Pitts Specials and Pitts S-2A climbing, diving, and twisting through the air...demonstrating the maneuvers that earned them championship grades. Midway through the film a taped interview with their famous designer went

something like this:

"It's an old-fashioned airplane, using the engineering knowledge that we've had since back in the mid-'20s. We've tried to keep it light, and in doing this we've tried to keep it small. We've tried to keep a good horsepower-to-weight ratio. We've tried to keep it clean enough to where it didn't completely poop out on the uplines. And that's just about the substance of making a good aerobatic airplane."

Aviation has been an integral part of the history of Americus, Georgia, for it was the home of a primary training base in both WWI and WWII. Also, famous aviator Charles Lindbergh bought his first Jenny in Americus. But possibly its greatest claim to aviation fame is that it is the home of one of the most famous aircraft designers in the world today...Curtis Pitts.

Curtis, whose international recognition has grown by leaps and bounds, built his first airplane back in 1932. Guided by an old flying manual, he designed and built a parasol that was powered by a Model T Ford engine, but unfortunately, he never got to fly his first creation. (One reason was that he didn't have a pilot certificate!) While taxiing it on a gusty day, the wind caught the wing and caused it to cartwheel. After this incident, he sold the airplane for \$6:



Curtis Pitts and Phil Quigley lean on racer No. 8.

"Cheapest plane sale I ever made, I reckon...."

After his "big sale" Curtis left Americus for Ocala, Florida, where he took a job as a railroad carpenter. It was here that he learned to fly, soloing an E-2 Cub in 1933.

From Ocala, Curtis shifted over to Jacksonville, Florida, where he worked for the railroad for eight years. Jacksonville holds special memories for Curtis for two reasons. One was that it was in Jacksonville that he built his second airplane. It was another parasol,



built from some old Heath parts he had collected. Powered by a three-cylinder Szekely, it was “built up enough to make it fly.” Secondly, and most important of all, it was in Jacksonville that Curtis met his wife, Willie Mae. “Ma” Pitts has been the true driving force behind Curtis in his quest to design one of the world’s finest aerobatic aircraft. When times were rough, she provided that extra “something” needed to make it through to brighter days. The saying goes, “Behind every successful man there is a good woman”—how true that is in Curtis’ case.

In 1940, Curtis left the railroad to work for a Navy aircraft repair shop. At the same time he took over the operation of the St. Augustine airport. Curtis loved to fly and he loved aerobatics, but the airplanes available were too big, too heavy, and most important of all, too costly. All these factors combined got Curtis thinking about designing his own aerobatic airplane. With the help of a correspondence course and on-the-job training, he felt that he could develop an airplane that would fit his needs and desires.

It was at Naval Air Station Jacksonville that Curtis met a man who was to have a lasting impression on him...Phil Quigley. Curtis, who was assistant inspector in the aircraft and repair shop, had found a set of exhaust stacks on which all the cracks were not welded to his satisfaction. He promptly sent them back to the weld shop to have them redone. This brought about prompt action by a large Swede who, with the stacks slung over his shoulder, came to see Curtis to find out what the problem was. After a brief explanation, the Swede returned to the weld shop and commenced to

Betty Skelton and *Little Stinker*. N22E has been updated through the years and has an o-360 Lycoming in the nose. After going through other owners, Betty bought the little bird back.



Phil Quigley in NX86401, the Number Two Pitts Special. Later it would be sold to Betty Skelton and become immortalized as *Little Stinker*. N22E was originally powered with a fuel injection Continental C-85. Note the Aeromatic prop.



Betty Skelton before N22E became *Little Stinker*.





Curtis Pitts, left, and Bill Brennand with the No. 21 racer. Bill was an extremely successful Goodyear pilot for Steve Wittman before flying for Pitts.



This lineup represents a good start toward a Hall of Fame of racing and aerobatic pilots. Left to right, Bill Brennand, Betty Skelton, Phil Quigley, Caro Bayley and Steve Wittman.

“chew out” a young, thin welder by the name of Phil Quigley. This was the start of one of Curtis’ longest and most lasting friendships.

Phil, who was in the Navy when Curtis met him, had a strong interest in flying. Learning of Curtis’ flying activities brought them close together. Using various aircraft, such as the J-3 Cub, Taylorcraft, and Interstate, Curtis taught Phil to fly. I asked Curtis what kind of a

pilot Phil was:

“Phil was an excellent pilot. Of all the people I instructed, he was probably the fastest learner I had.” The original design of the Pitts Special was actually started in 1942 with the intent of building a good-performing, low-powered aircraft, for use in aerobatics exclusively. Powered by a 55-hp Lycoming engine—“because the engine was handy and money wasn’t”—the orig-

inal Pitts Special made its maiden flight in 1945 with Curtis at the controls. The airplane, weighing just under 500 pounds, flew well with the little Lycoming powerplant.

Although this combination performed well by the light aircraft standards of that time, the Lycoming was replaced with a 90-hp Franklin with a homebrewed inverted system.

“We had inverted fuel problems coming out of our ears. You just never knew when it was going to work or not. You had to roll over, hold your breath, and pray.”

All things considered, the change to the Franklin produced excellent performance in the little midget biplane. (Can you imagine what he would have thought if he had had a 180-hp engine to hang on the nose!)

The airplane was eventually sold to a crop duster who was practically deaf.

“He was so deaf that he couldn’t hear a car engine running while standing next to it.”

His hearing problem, combined with the unpredictable inverted system, led to the demise of the original Pitts.

“One day, about two weeks after he bought it, he was showing off down low. After making a dive he pulled it up to about a 45 line and rolled on his back. All of a sudden the engine quit, but he didn’t immediately realize it. He pulled back, and as he came around it mushed. He hit the ground nose-high but fortunately walked away from it.”

In 1945 Curtis and Willie Mae moved to Gainesville, Florida, with the understanding that he was to build 10 Pitts Specials for Carl Stengel. But as luck would have it, Stengel’s Flying Service ran into financial problems before the first airplane was completed. On May 1, 1947, Curtis bought Stengel’s operation and became the new owner and operator of a mechanic school and repair shop. Included in the



deal was one uncompleted Pitts that would soon gain fame under the name of *Little Stinker*.

Curtis completed *Little Stinker* (which was the second Pitts Special built) and put a fuel-injected 85-hp Continental engine in it. Phil Quigley, who had also moved to Gainesville, started flying it in various air shows. Phil's initial flight experience in a Pitts occurred when Curtis still had the prototype. As usual, Curtis was working on that "darn" inverted system. He put Phil in the cockpit for a run-up while he was making adjustments.

"I went into the shop for a minute, and about that time Phil figured he wanted to fly that airplane, so off he went."

Under Curtis' coaching, Phil became a top-notch aerobatic pilot.

Curtis feels that Phil Quigley was a true "master" of the Pitts. He related one incident that truly demonstrates Phil's ability to handle the airplane. Phil was on a cross-country flight when the crankshaft broke, and he had to make a forced landing. He dead-sticked the airplane down on top of a narrow levy in the Everglades that was about half as wide as a road. In fact, it was so narrow that the game warden who came to his rescue couldn't get by the airplane! Somehow they got the airplane turned around and towed it away.

Eventually, Curtis sold the airplane to Jess Bristow who was the head of World Air Shows in Miami. Jess then hired Phil to fly the airplane in shows for him. Jess had it for about two seasons before a disagreement between Phil and himself led to its purchase by a young woman who was to gain international aerobatic fame for both herself and the Pitts.

Betty Skelton learned her aerobatics in a PT-19 under the direction of Clem Whittenbeck, a well-known aerobatic pilot in the '30s. From the PT, she graduated into a Great Lakes powered by a 165 Kinner. I asked Betty what



*Samson*, the BIG Pitts. This was a one-off, 450-hp special built to order for air show pilot Jess Bristow. *Samson* was destroyed in a collision/fire in North Carolina.

her reaction was when she saw the Pitts for the first time:

"It was at the All American Air Maneuvers in Miami in 1947. I was entering the pattern in my Great Lakes when I noticed it on the ground. It was noticeable because of all the people around it. As soon as I landed, I rushed over to it. Right then and there, I knew it was for me."

Betty bought the airplane in 1947, changed the registration number from NX86401 to N22E and christened it *Little Stinker*. From 1947 to 1951, she gained national and international recognition, performing at many of the major air displays in North America and Europe. She was the reigning national women's champion during this period of time.

In the late '40s, Betty participated in the International Air Pageant at Gatwick Airport in London, England. The *London Daily Express* (a very active backer of aviation, sponsoring this event as well as many others) invited Betty, along with representatives from various countries, to participate in the Pageant.

Participating in the Pageant was

one thing...getting there was another. She flew *Little Stinker* to Newark, New Jersey, where she enlisted the help of a mechanic, and dismantled it.

"It was quite a job. There were no drawings, so we had to count each nut and bolt and the number of turns on each wire. When the job was completed, we boxed it up...it looked like a large coffin."

From Newark, the airplane was trucked to the coast where it was loaded on the *Queen Mary* for its long voyage to London.

"The reaction to *Little Stinker* was astounding. I think it was about the smallest airplane flying at that time. In England, sport flying was expensive at this time...gas was especially costly. They just fell in love with it."

Betty had also been asked to participate in the Royal Air Derby in Belfast, Ireland, following the International Air Pageant. The trip to Belfast included a refueling stop at Liverpool where she picked up an escort for her flight across the Irish Sea.

"My escort was flying an RAF Anson, which was a landplane. He was equipped with life jackets and



Caro Bayley poses with her Pitts.



Caro Bayley in the Number Three Pitts. N8M continued the climb upward in power. It had a 125-hp Lycoming. This Pitts was destroyed by a fire that resulted from a broken injection line.

a life raft, but he was the only person on board. If I would have set down in the sea, there is nothing he could have done to help me.”

The day of the big show arrived, and it rained and rained. Yet the people stayed—standing in that miserable weather, waiting for some type of aerial performance.

“Their enthusiasm was amazing. I was the only one who flew that day. The ceiling was low, so all I was able to do were a few rolls and so forth. When I landed, the people started to mob the airplane. If it

wasn’t for the fact that we rushed the airplane inside the firehouse, it might have been torn up.”

Betty then sold *Little Stinker* to Bob Davis who was one of a long line of owners. George Young bought it next and replaced the 85-hp Continental with a 135 Lycoming. Eventually, he hung a 170-hp Lycoming on the nose. Finally, the airplane was sold to Drexell Scott, who completely rebuilt it to “like-new condition.” Almost 20 years later, *Little Stinker* returned home when Betty Skelton Frankman

bought it back. Betty and *Stinker* now call Winter Haven, Florida, their home where the airplane is still actively flown.

While *Little Stinker* was making a name for itself in the aerobatic world, Curtis unknowingly found himself about to enter into the crop-dusting business. Jim Holland, nationally known aerobatic performer, was in the dusting business back in 1947. Curtis did some maintenance work for Jim, including the conversion of a couple of 220 Stearmans for dusting use. About three months after Curtis completed the airplanes, Jim left for England, and Curtis bought the operation from him. This was the start of a career that he stayed in for almost 20 years.

Though the dusting business required a great deal of his time, Curtis still continued his aircraft building activities upon request and with some prodding by a pretty girl. Caro Bayley worked for Jess Bristow, flying a Clipped-Wing Cub in air shows for him. But Caro’s interests turned from air shows to competition, and after seeing Betty Skelton and *Little Stinker*, she decided that a Pitts was what she wanted. Caro went directly to Curtis, and before you knew it, he was building again.

Caro’s airplane was the third Pitts built and the first equipped with a 125-hp engine. Horsepower requirements kept rising. Today many Pitts Specials are equipped with 200-hp Lycomings...a far cry from the original 55-hp powerplant used in 1945. Curtis built a fuel injection system “which was the first one that ever worked without any problems. We used an old Excello system and reworked it to make it fit the Lycoming.”

The wings and forward portion of the fuselage were re-engineered to compensate for the increased power and gross weight. After Caro flew it at various shows and competitions, she sold it to Frank Gib-



son. Frank lost the airplane when an injection line broke in midair causing a fire. He landed the airplane safely, but had to helplessly stand by as the airplane burned.

While at Gainesville, the evolution of *Samson* took place. Jess Bristow had owned the ex-Howard Hughes Boeing 100, but sold that and bought a Ford Tri-Motor. But he felt the Ford burned too much gas. One day he flew the Tri-Motor to Curtis' operation in Gainesville, got him on the side, and asked him to design a special airplane for him.

Jess wanted an airplane that was smaller than the Great Lakes, but one with a lot more power. Curtis went to the drawing board (It should be remembered that Curtis did not go to a formal engineering school but was a self-taught designer who used common sense and an innate feeling for aerodynamics.) and designed a small biplane that was to be built around a 450-hp Pratt & Whitney.

Curtis showed his design to Jess, and everything was fine except that he wanted the airplane to meet the following specifications:

1. It was to be capable of carrying
  - a. 50 gallons of smoke oil
  - b. 12 gallons of fuel in the auxiliary tank, which was to be used for aerobatic flights
  - c. 120 gallons of fuel in the main fuselage tank
  - d. 12 gallons of lube oil
2. It was to have room to carry a large steamer trunk since Jess spent a great deal of time on the road. With some redesigning, *Samson* met all of the above standards. To meet the requirement of the steamer trunk, a removable stick was put in the airplane. Jess would stand the trunk on end, strap it to the fuel tank, and put the stick back in place. *Samson* had an aerobatic gross weight of 2,200 pounds and an empty weight of 1,595 pounds.

Eventually, Jess sold *Samson* to air show pilot Ben Huntley of Charlotte, North Carolina, who



Phil Quigley in *Little Stinker*. The original version of the new stylized Pitts sunburst paint scheme is being flaunted here.

campaigns the plane for a time and, in turn, sold it to the legendary Johnny Skyrocket, a flamboyant air show star of the 1950s. The "big" Pitts came to a fiery end at a Bill Sweet air show in Fayetteville, North Carolina. Being flown by Buddy Rogers, *Samson* was put through its paces, and on the approach to landing at the conclusion of the act, it collided with an unlicensed Ercoupe. Both aircraft went in and caught fire on impact. Rogers was able to escape from the wreckage, but *Samson* was totally destroyed.

About this time, Curtis developed the racing bug. Jimmy DeSanto wanted Curtis to modify an Unlimited airplane for racing. Curtis did not want to take on the project, but Jimmy's efforts got him interested in racing. Curtis built his first midget racer, No. 21, in 1947. The ever-present Phil Quigley and Bud Heisel were called upon to fly it in some of the races across the country.

Curtis started another racer, No. 8 (N97M), but the untimely death of Bud in No. 21 caused this project to be shelved for almost a year. Finally, Curtis built up enough enthusiasm to finish it, and again

Phil flew it in a few races. After Phil quit flying No. 8, famed racing pilot Bill Brennand from Oshkosh, Wisconsin, took over the controls. Bill called Curtis one winter and inquired about the possibility of flying it. He previously had been flying for the nationally renowned Steve Wittman. Bill came down to Gainesville on a vacation and stopped to see Curtis. An agreement was made on the spot, and Bill flew the airplane home. No. 8 never really enjoyed a glorious racing career for it was plagued by continuous engine troubles. In time Curtis sold No. 8.

This was the last racer Curtis built. It was last known to be owned by Jim Dulin of Paoli, Oklahoma. Curtis lost interest in racing and concentrated his efforts on his dusting business and aerobatics.

Up to this point in time, Curtis' design and building activities had been quite extensive. His two initial parasol designs were followed by the prototype Pitts Special, which was built in Jacksonville. Upon moving to Gainesville, he built two Pitts Specials (*Little Stinker* and Caro Bayley's), two racers (No. 21 and No. 8) and *Samson*.

IAC

*Continued in the August 2015 issue.*

# Check Pilot Report

## Pitts Special N8L

BY BILL DODD

EAA 1170

**Editor's Note:** This article first appeared in the November 1965 edition of Sport Aviation magazine. N8L is still flying and was recently photographed by Evan Peers of Airspace Media.

No one has urged me to write about the Pitts Special, but I recently had so much fun flying Pat Ledorf's Pitts at Homestead, Florida, during a two-week period that I thought perhaps other pilots who like little biplanes might enjoy hearing my impression of this famous design.

This experience shows you how important it is to go to the national fly-in each year. It was there that I met Pat, who invited me to come by and try the Pitts when I was in his area.

Pat's plane is finished in white with blue sunbursts on the top of the wings and tail, with blue and white checkerboard on the bottoms. He did a smooth job of completing it with matching upholstery, a prop spinner, and long, sleek wheelpants. The power is a Lycoming 125-hp GPU. Pat won the 1963 EAA award for the best GPU conversion.

It was a sunny, warm, cloudless day as we walked out toward this pretty little plane sitting on the grass in front of the hangar on Curtis Pitts' 2,500-foot sod private strip near Homestead. The plane looked really ready to go. Since I hadn't flown anything this small before, I wondered how ready I was



Designer Curtis Pitts stands in front of the Pitts Special.

to go! As Pat showed me around for the exterior preflight inspection, he began a subtle continuing speech about how I wasn't going to have any trouble.

The first problem that bothered me was how was I going to get my 210-pound, 6-foot 2-inch frame into what looked like a small cockpit. Then came my first surprise. It was easy to step in and slide down into the cockpit. There was a lot of room both sideways and lengthwise; actually, it is more comfort-

able than the cockpit of my Ryan ST-A, which I had always felt was cozy but comfortable.

There was no problem in starting, although Pat has a pressure carburetor in the full inverted fuel system. The engine burst into life on the first try. Pat gave me the "go" sign, and I pulled out a little away from the crowd of regulars who gathered to see the "new test pilot" try his hand. At first I thought the engine was idling a little rough but then realized that it wasn't the engine at all. I had built up so much anticipation that it was my knees that were doing the vibrating.

Everything checked out. There was no traffic. So after a wan smile, I lined up and began feeding in power and right rudder. Then came the second pleasant surprise. I didn't need all that right rudder, and the rudders were so direct and responsive all you needed was a slight toe dance. Acceleration is very rapid. In fact, it popped off the ground before I was ready, but I wasn't about to try to hold it back. Almost before I realized, we were indicating 140 mph.

Even with my weight, at 100 mph it climbed right on out. In





N8L as she looks today.

less than a minute we had climbed 2,300 feet and were heading out to an open area for feeling it out. Then came the third surprise. Even with the small windshield there was no apparent cockpit wind blowing in my face. There just is no cockpit wind! No wonder the boys were laughing at me on the ground as I was putting on a helmet and buckling it under my chin. Most of the others wear only their hair, or as I found out later, Pat dons a favorite baseball cap and flies with the visor facing forward.

The cruise speed was an easy 125 mph at 2400 rpm. It stalled at 60 power-off with very easy recovery. All that is needed is to release back-pressure and add a little power to begin flying again immediately. The stall is soft and gentle.

All the controls are very responsive and sensitive with light control pressures. The lightness is impressive. The main thing that impresses you, though, is the solid feel of the plane and its feeling of stability. It gives the impression of a bigger, heavier plane. You almost forget momentarily that it isn't, until you look out and can

almost touch the wingtips.

Since this Pitts was equipped with shoulder harness and double seat belts, and we were feeling more and more confident in this little machine, we decided to get down to business and try some basic aerobatic maneuvers.

It seemed like a good idea to start with some roll variations, some different kinds of loops, and a few snaps. If you put in quite a lot of aileron, a roll happens so fast you hardly know you've been around. My problem at first was using too much rudder for trim in rolls, which caused off-point deviation of the nose. You just don't need much corrective rudder during rolls. Anyone used to doing aerobatics in a heavier plane will be delighted with the lightness of the stick during rolls. Over on its back at cruise speed or above, the Pitts just goes right along, seemingly, by itself straight and level. It does four-point and eight-point rolls with literally almost an imperceptible movement of the stick. It sure gives you confidence on its back. It feels very stable, and it is easy to hold the nose up with a small

amount of forward stick pressure.

Loops can be done from cruise with the 125 for power. You can make them any diameter from a tight 700 feet to a loose 1,500. There is one interesting thing that the Pitts does if you pull too tightly at the top or make your arc so loose that too much speed is lost. As the speed slows to about 75 or less indicated on top, the little Pitts begins to teeter-totter laterally. It can be "walked" through this point and into the downside of the loop. However, if nothing is done to help, it always half-rolls or half-snaps of its own accord back to right side up. There seems to be something inherent in the design that makes it seem to want to come right-side up on its own from many different awkward attitudes. Since there is more than adequate climb, it easily flies through square inside loops or eight-point inside loops.

I had expected the Pitts to do rolls and loops really well but didn't know about snapping motions. Here came the fourth big surprise. Snap rolls are quite an experience. They are real fast, and the first couple of times you don't seem to stop

AIRCRAFT LOG						
YEAR	MO.	DAY	RECORDING TACH. READING	TIME THIS FLIGHT	TOTAL TIME	FROM TO SIGNATURES AND/OR REMARKS
63	7	16	—	30	30	Holland Dept. Test run. W.P. Leford
	7	16		1:30	2:00	" " W.P. Leford
	7	16		1:30	3:30	" " W.P. Leford
	7	16		1:00	4:30	" " W.P. Leford
	7	16		1:00	5:30	" " W.P. Leford
	7	16		1:00	6:30	" " W.P. Leford
	7	16		2:00	8:30	" " W.P. Leford
	7	17		3:00	11:30	" " C.S. Browder
	7	17		2:30	14:00	" " R.C. Quigley
	7	17		3:00	17:00	" " W.P. Leford
	7	17		2:00	19:00	" " R.C. Quigley
	7	17		1:00	20:00	" " R.C. Quigley

CARRY TOTAL TIME TO TOP OF NEXT PAGE

Curtis Pitts test flew N8L and signed the logbook. His signature is fourth from the top.

where you should but go whizzing about a quarter-turn past level—or stop abruptly a fraction short. Once you get used to the quickness it becomes easy to stop exactly where you decide. The rudder action is positive and effective. I found it easier at first to do a one and a half or double snap than a single. You have more time to think about stopping. I'll have to confess I never successfully did a half-snap perfectly. I just was not fast enough to stop it precisely on its back. I'm sure it would come easily with practice. After having a lot of difficulty teaching my ST-A to do a triple snap, it was certainly a revelation to attempt, and complete nicely, triple and quadruple snaps on the first try with no appreciable loss of altitude. All that is necessary is a little more speed than for single snaps, hold rudder and stick pressure until ready to recover, and then sit there and count the turns.

After this initial aerobatic experimenting, we really got eager to go ahead and try more. The next things tried were hammerhead stalls, English bunts, outside loops, and knife-edge flight.

If you've ever had the urge to climb a plane straight up, the Pitts will oblige. It will go straight up to a point where it will stop and even start sliding backward, at which point, if you push full left rudder, you turn sideways end for end and

nose straight down under control at all time.

I once heard someone say that the Pitts Special is a really good aerobatic plane, but it didn't do outside maneuvers well. The little Pitts doesn't seem to have heard this. At 160-170 mph it will start from the bottom inverted and go through an outside loop with 80-85 at the top, and roll out at 130-140 at the bottom after the English bunt side, and do it in a relatively tight circle.

Knife-edge flight is one of the best things a Pitts can do. With an entry speed of 150-160 it will go a half mile or more on its side without any loss of attitude. This capability really gives a pilot a head start if he wants to attempt something like a snap and a half from knife-edge to knife-edge.

A word about g-loads. This little plane can take up to 10g's. After becoming familiar with the plane, it wasn't necessary to put more than 3-1/2 positive and 2-1/2 negative g's to do any basic maneuver.

The best approach speed seemed to be about 85-90 with a little power. Any slower and the rate of sink increases. At this speed, the glide angle is about the same as most lightplanes. The M-6 airfoil has a very gradual smooth stall curve on a NACA stall graph. This is demonstrated in flight from all stalled attitudes. When this gentle

stall is combined with a ground air cushion, it becomes almost impossible to make a bad landing. My best system was a low flare-out with a combination of easing off power and adding back-pressure gently and slowly at the same time. It always seemed to sit right down three-point every time. Of course, the Pitts is short-coupled, and you have to be alert on the rollout. After touchdown on sod, it decelerated quickly. The only thing that might disturb a Cub or Cessna pilot for his or her first few landings in the Pitts is that you can't see over the nose in the landing attitude. You soon learn to gauge straightness by looking out to the side around the cowl and then S-turn as you slow down.

In conclusion, I'd like to say that I had formerly thought that small planes should not be taken too seriously as "good" airplanes. I figured they were a compromise between small size and just adequate flight characteristics. However, I was pleasantly surprised in many ways by the Pitts: the solid big airplane feel, the roomy cockpit, the gentle stalls, and the excellent aerobatic capabilities. I'd say also that a Pitts Special is a proven design (*Little Stinker* was built more than 18 years ago and is still flying, having worked its way through a succession of engines up to the present 170-hp Lycoming) and that it is easy to fly, has sensitive-responsive controls, is strong, is relatively easy to build and, best of all, is fun to fly. It is enjoyable to simply fly around in this little plane and nice to know you can turn over on your back also, any time you choose.

Telling you about the Pitts is the next best thing to flying one, but you'll have to excuse me now. I've got to get back to building mine. **IAC**



# Aircraft Engine Parts

Shop Solo or With  
Vectors from our  
Engine Parts  
Experts

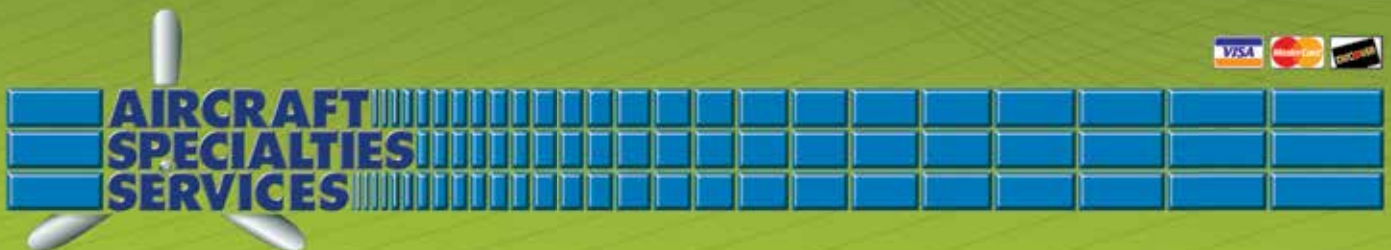
TRACK THE  
PROGRESS OF  
SHOP WORK ONLINE.  
**LIVE!**  
See Below



Order On-Line 24/7/365  
[www.aircraft-specialties.com](http://www.aircraft-specialties.com)  
**1-800-826-9252**

2860 N. Sheridan Road, Tulsa, OK 74115  
Phone: 918-836-6872 Fax: 918-836-4419

FAA DD2R764K & EASA, 145.6513 Certified Repair Station



Do you have machining work in our shop?  
Conveniently track it on our website 24/7/365.  
Look for the **Track Shop Work** Quick Link on our Home Page.

# Pitts Flight Deck:



ARTICLE AND PHOTOS BY EVAN PEERS

**N**ew Coalinga traffic, Pitts flight of seven taking Runway 12 for takeoff; departing southwest for the aerobatic box, Coalinga.”

There is a transmission that you don’t hear very often in this remote town in Central California known for its almond, pistachio, and natural gas fields. Once a year, IAC Chapter 38 comes to town, bringing with it more than two dozen new and veteran aerobatic pilots from IAC chapters all over the West Coast to compete in the Coalinga Western Showdown.

This year was special. It became even more distinctive since the 70th anniversary of Curtis Pitts’ first test flight of a brand new biplane design neared, and a special commemoration was in the works. Nearly 40 percent of the 25 aircraft in Coalinga this year were Pitts Specials.

## 8 Weeks Ago . . .

I called the editor of *Sport Aerobatics*, Reggie Paulk, with an idea to coincide with the EAA AirVenture Oshkosh celebration of the Pitts Special. “What do you think of featuring seven Pitts aircraft,

one from each decade, flying in formation in the July issue?” I asked. “Wonderful!” came the ever lively and appreciative response.

## Finding the Aircraft

How do you locate a handful of classic Pittses? FAA to the rescue. I downloaded the full U.S. Aircraft Registration Database and started poring through it. Immediately it was obvious that the entries were and maybe still are hand-coded: The regular Pitts Special, but then variations of model S1-C, S1C, and S-1C. Names like Walker Pitts Spec S-1-C and even Curtiss (sic) Pitts as make and or model. Condensing, filtering, and gray-cell straining yielded 70 pre-1970 flying Pitts aircraft.

Knowing I needed to get seven aircraft in one place, more filtering by region was necessary. Alas, California came through with about 100 candidate aircraft. I knew some of the owners but not too many. I reached out to people who had wider connections than I—local chapter presidents, members, Reggie Paulk, Mike Heuer. I got a lot of help from Beth Stanton, Tim Just, and Gray Brandt.

And then, in a blinding flash, it

all came together at the Apple Valley Duel in the Desert contest in Victorville, California. Of the 21 aircraft present, we had nine Pitts competing. Even the centerpiece of the plan, N8L, the oldest flying Pitts in the United States and one of first to be built from Curtis Pitts’ original plans, was there competing. I talked with all of the pilots, explaining the project, its significance, and discussed their formation capabilities. The love of the Pitts and the enthusiasm to celebrate their own treasure’s origin was unmistakable. If not for the all-important factor of formation safety planning, I am certain all of them would have jumped in and flown the mission right then and there.

So I had the bulk of the roster together. I looked at the lineup in an OMG moment. We had seven aircraft, of seven unique types, spread nicely through the decades, all of them straight from the IAC community. However, I could not fulfill the “seven decades” plan since there are no flying examples from the ’40s and ’50s; the plans and homebuilt movement only started in the ’60s.



# The box is yours



Pitts Flight run-up complete. Left to right: S2C N114PS, S1D N2968G, S2S N8061J, S2A N49BR, S1S N39XP, S1C N8L.

## Flight Plan

It was time to get serious. Any aircraft flying in proximity to another makes for a situation where milliseconds can make the difference between flight and disaster. Putting eight aircraft up there—we had to be 800 percent sure of flying a safe flight. When I was surveying the formation skills of the pilots, it was for several reasons. First, how much dual- and multi-ship formation had they flown? With this information I could work on the formation design and each pilot's relative positioning within the formation.

Second, these are aerobatic pilots in the Intermediate through Unlimited category. I know they can fly and are expert at positioning their planes in three dimensions. But how much flex is in that? How close to another aircraft could each be safe and comfortable? That would be the measure of tight versus wise formations.

And third, to make sure none were about to be showing off or going for a unique joyride—either of which would be grounds for elimi-



Walking the delta formation on the ramp at New Coalinga Airport. Left to right: Howard Kirker, Melissa Courtney, Mitch Robinson, Chris Olmsted, Ken Erickson, Yuichi Takagi, Sammy Mason, Casey Erickson.



Six Pitts take to the sky.



Pitts Flight in echelon formation.



Pitts Flight forming up into Delta.

nation from the formation. As expected, all without fail were skilled, rational of their abilities, and respectful of the sky.

I took all this into account and consulted two experts in formation flight: Bill Stein and Randy Howell. Their advice and guidance would become the essential backbone of our flight. Formations. Positions. Abilities. Speeds. Routing. Photoship. Form up. Tear down. Formation changes. Outs for each position. Emergency procedures. It took a few weeks to plan it all.

Three days before the flight, I sat down with Bill Stein and Ken Erickson at Sean D. Tucker's Tutima Academy of Aviation Safety—one of the foremost authorities on both aerobatic and formation safety. Ken would be one of the pilots flying Tutima's Pitts, and be our "quarterback" during the actual flight, guiding and calling the plays from within. The briefing plan and the final formation came out of that.

### **Pitts Flight**

Sunday came, along with grueling 100°F heat at the end of the contest. We had one scratch due to strain from the weekend flights—an admirable and smart decision—so here we go with a six-ship formation.

Seven pilots, a safety pilot, and a photographer took their place in the FBO for two hours of briefing and detailed flight planning. Led by myself and Ken Erickson, we went through all the flight positions, pilot and aircraft capabilities, formation and route plans, and contingencies.

Over and over, we related that the flight was of dissimilar aircraft with pilots of various levels of formation skills. The flight would be about the celebration of the Pitts Special and was not to become a splashy "air show." There was no need for any of the pilots to push anywhere close to the edge of their comfort zone. We concluded with a survey of every pilot to make sure







# Ben Lowell Aerial **Confrontation**

Aerobatics in the Rockies

BY JULIA AND JONATHAN APFELBAUM

PHOTOS BY JULIA APFELBAUM



**Ah,** spring time in Colorado. Snow is melting, flowers are blooming, and if you don't like the weather—wait a few minutes. It does make having a competition challenging. But, not to be dissuaded, IAC Chapter 12 held its annual spring-time Ben Lowell Aerial Confrontation at its biannual location of the United States Air Force Academy (USAFA) in Colorado Springs.

Located under the shadow of 14,115-foot Pikes Peak, the USAFA is the youngest of the United States Service Academies, being established in 1954. USAFA has 13 airmanship programs involving basic and advanced instruction in gliders, powered aircraft, and parachutes. The 94th Flying Training Squadron conducts the soaring programs, with aerobatic training and competition in its DG Flugzeugbau TG-16A sailplanes (otherwise known as DG-1000s).

Capt. Brian Ross took over the reins as contest director with one month to the confrontation. The prior director, Capt. Billy Jacks, had a work conflict, and Brian did a fantastic job of putting everything together.

Mark “Matty” Matticola was the driving force pulling everything together, as well as being the head of glider operations and training at the Academy and the chief judge. Col. John Neptune, the commanding officer, was also involved, ensuring everything ran smoothly.

Flying into USAFA's airport (KAFF) is no small undertaking. Lots and lots of paperwork had to be filled out, and approved, ahead of time. The airport itself is at 6,572 feet above mean sea level (ASL) and has three parallel north-south runways (16-34 L, R, and



Barry Hancock



Jonathan Apfelbaum and Dagmar Kress take off.



Dennis Whitmer





Pitts shuffle.

C) ranging from 3,534 to 4,500 feet long, and a single east-west runway (8-26) measuring 2,490 feet (with an overrun).

For those of us who drove in, getting onto the Academy takes prior approval as well. Thanks to DJ Molny as well as the USAFA staff for getting the large amount of paperwork squared away ahead of time, and minimizing the logistical headaches. It is no small deal to get people on the “approved” list to drive onto the Academy grounds.

Once at the airfield, there was a security briefing and people were issued identifying badges. Those without badges had to be escorted if they went outside of the approved zone—definitely unusual for those used to small uncontrolled airports. As if to underscore how seriously they take these issues, during the contest a person climbed the perimeter fence and walked across the departure end of Runway 16L. The last anyone saw of him he was being led away in handcuffs.

One very nice thing was that there were plenty of enthusiastic volunteers to help get everyone organized, registered, and squared away. Registrars, boundary judges, assistants, weather briefs, and people to help move aircraft. Counting the cadets and officers, there were more people than tasks (which was



Generations of Pitts.

a nice embarrassment of riches).

Friday, April 24, was the practice day, as people arrived and got their first look at the box. We are complete novices when it comes to such things (this being our first contest), but those with more experience say that the Air Force Academy has the nicest, and most well-marked aerobatic box. It is located just to the north of the runways, and certainly was easy to see!

The 94th Flying Training Squadron graciously offered the use of its hangar. Since it accommodates its assembled sailplanes, the doors are wide, and there was plenty of room, even with all the sailplanes

“Tetris-ed” together. The density altitude, plus the weather, made for some unexpected surprises in practice as people got used to the thin Colorado air.

Safety, as always, is paramount. Flatlanders shouldn’t be nervous about coming up to the state with the Mile High capital. While the altitudes required for flying a contest here are higher than most, it makes for good learning experiences. Contestants were reminded and encouraged to use their free breaks during their sequences, and no one had any significant issues.

Continuing the “Springtime in Colorado” theme, the weather gods





Dick Fennel



DJ Molny



Patrick Doyle

**The Winner's Propeller!**  
*Fly the Champion's Choice!*

*Mr. Percy Woodruff  
 at the 1928  
 with the  
 EAA 2000!*

*Euro Descartes*

*Pro Model 72*

Available for almost every aerobatic aircraft, for custom built airplanes like Luscombe, Velocity, Glasair or RV and for more than 100 certified aircraft types. Order your custom designed propeller today!

MT-Propeller USA, Inc., Florida  
 Phone: (306) 736-7762  
 Fax: (306) 736-7696  
 e-mail: [info@mt-propeller.com](mailto:info@mt-propeller.com)

MT-Propeller  
 Headquarters Germany  
 Phone: +49-9429-94090  
 Fax: +49-9429-94632  
 e-mail: [sales@mt-propeller.com](mailto:sales@mt-propeller.com)

[www.mt-propeller.com](http://www.mt-propeller.com)

**IN THE LOOP**

Stay connected with IAC's member benefit, the world of aerobatics on the Web, in our e-newsletter!

To subscribe:  
[www.EAA.org/newsletters](http://www.EAA.org/newsletters)



Greg Baker

were fickle. The weather was variable with nice visibility, competing with virga and rain, as well as intermittent classic changing Colorado winds. Most everyone who wanted a practice flight got one, although not at his desired time. Everyone was keeping a close eye on the weather, as the reports were variable, but the overall impression was that the weekend was going to be dicey and that the competition might have to be shortened, especially for the people who had to fly out earlier to get home.

Saturday morning was clear but windy at the 7 a.m. briefing. The outlook was poor for Sunday, and Saturday afternoon was variable but generally not encouraging, as weather was anticipated to build off the Front Range. The winds coming over the Rocky Mountains can generate plenty of turbulence, and the initial briefing called for light to moderate turbulence as well as potential wind shear.

Primary started first, with power being intermixed with the gliders. A few of the Primary folks had to be mixed between the Sportsman competitors to allow turnaround time, as five Primary pilots were sharing Dagmar Kress' Pitts S-2C. (The "Dagmar's Ducklings" is a story for another article.) The increasing winds blew all of the Primary gliders out of the box and eventually increased to the point that glider operations were suspended for a few hours. As winds continued to gust and shift, it became necessary to use the east-west runway instead of

the north-south runways.

Sportsman flew next, with the last few Primary competitors fit in, and glider operations resumed as weather permitted. This was Utah'n Brian Hancock's first contest, and he would have finished first, except he had a low call when he went out of the bottom of the box. Excellent first-time performance, Brian!

Because of the limited number of judges, the Advanced participants flew after Sportsman, to accommodate everyone's schedule. However, soon after Advanced finished, the weather changed for the worse, and there was a scramble to push all the aircraft into the hangar before stronger winds and rain arrived.

Patrick Fogarty, Bob Buckley, and Douglas Lovell were the judges for Primary, Sportsman, and Advanced. Jamie Treat, Robert Freeman, and Mike Forney were the judges for Intermediate. They were assisted by Greg Rosendahl, James Morse, John Blum, Pamela Freeman, and Peter Gelinas.

Finally, late in the afternoon, the Intermediate competitors and the last gliders were able to get their flights. Intermediate-level participant Dick Fennel was competing in his first contest and completed an impressive first sequence. Due to the deteriorating weather, the decision was made to cancel Sunday, and to let the scores stand based upon everyone's single flight. As the day wound down, a few pilots were able to sneak out between storms to try and get home. The Academy staffers were wonderful and gracious

hosts, and helped make arrangements to let people leave their aircraft and recover them later when the weather was more accommodating. It actually took more than a week to get everyone and their aircraft returned to their home fields. Additional thanks to the tower crew who did an outstanding job getting aircraft launched, staged in holding areas, and recovered smoothly. It is unusual to have a tower at a contest, but they did an outstanding, smooth, and professional job.

As the flying ended, the party transitioned to a banquet and awards ceremony at Ike's Grill, at the Academy's Eisenhower Golf Course. Aside from the standard first, second, and third place plaques, special "Iron Butt" awards were given to Dagmar Kress and Tom Edwards for their long hours mentoring and flying as safety pilot for multiple competitors. Dagmar flew as safety pilot for five Primary competitors, and Tom for two. Plus the three aircraft Tom brought were used by six different pilots, as was Dagmar's Pitts. Erin Kelly was awarded the Rick Bobbitt Memorial Trophy for Best New or Move Up Pilot (previously awarded at the holiday party, but he wasn't there to receive it). His performance in Intermediate verified it was well-earned. Cadet Norman Hitois deserves special mention for his outstanding logistic support and ensuring everyone was taken care of, including hotel accommodations, meals, and transportation.

Despite Mother Nature being fickle, at the end of the day it was a wonderful event! The Academy is a beautiful and fascinating backdrop to fly over. It was a delight to catch up with old friends and make new ones, and to meet the next generation of Air Force cadets and officers. Come join us in 2017, when the US-AFA hosts the Confrontation again.

By the way, for those of you who want to know why the contest is called the Ben Lowell Aerial Confrontation, check out IAC Chapter 12's website at [www.IAC12.org](http://www.IAC12.org). **IAC**





*Preorder your*

# AIRVENTURE 2015 DVD

**& WE'LL SHIP IT FOR FREE\***

**NOW** AVAILABLE  
in Blu-ray  
+DVD Combo Pack

Featuring the very best of EAA AirVenture Oshkosh 2015 including stunning footage not seen from the flightline. Relive the entire convention whenever you want from the comfort of your living room with this DVD or Blu-ray.

Visit [EAA.org/Shop](http://EAA.org/Shop), or call  
toll-free, 800-564-6322, to order.



\*Free shipping is valid on domestic orders only. International preorders are \$3 shipping plus \$1 for each additional DVD. After July 31, regular shipping rates apply. Your EAA merchandise purchase supports EAA programs that grow participation in aviation.



**For a complete list of contests and for the most up-to-date contest calendar, visit [www.IAC.org](http://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.*

## **Best Box in Texas (South Central)**

**Thursday, July 9 – Sunday, July 12, 2015**

Practice/Registration: Thursday, July 9

Rain/Weather: Sunday, July 12

Power: Primary through Unlimited

Location: Jackson County Airport (26R): Edna, TX

Region: South Central

Contest Director: Doug Jenkins

Phone: 210-485-8025

E-Mail: [bagsf15@yahoo.com](mailto:bagsf15@yahoo.com)

Website: <http://www.iac127.eaachapter.org/>

## **ACE's High Spring / Summer Opener (South Central)**

**Saturday, July 11 – Saturday, July 11, 2015**

Practice/Registration: Friday, July 10

Rain/Weather: Sunday, July 12

Power Categories: Primary Sportsman

Location: Newton City County Airport (EWK): Newton, KS

Region: South Central

Contest Director: Mark Wood

Phone: 602-361-3504

E-Mail: [Mark@dreamcatcheraviation.com](mailto:Mark@dreamcatcheraviation.com)

## **Michigan Aerobatic Open (Mid-America)**

**Saturday, July 11 – Sunday, July 12, 2015**

Practice/Registration: Thursday, July 9 – Friday, July 10

Power: Primary through Unlimited

Location: James Clements (3cm): Bay City, MI

Region: Mid-America

Contest Director: Brian Roodvoets

Phone: 810-338-7654

E-Mail: [redfoot@chartermi.net](mailto:redfoot@chartermi.net)

Website: <http://www.iac88.eaachapter.org/>

## **The Bluegrass Open (Mid-America)**

**Saturday, July 11 – Sunday, July 12, 2015**

Practice/Registration: Friday, July 10

Power: Primary through Unlimited

Location: Hopkinsville-Christian County Airport (HVC): Hopkinsville, KY

Region: Mid-America

Contest Director: Wade Ayala

Phone: 270-350-0142

E-Mail: [ayala160@bellsouth.net](mailto:ayala160@bellsouth.net)

Website: [www.iac27.org](http://www.iac27.org)

## **Green Mountain Aerobatics Contest (GMAC) (Northeast)**

**Friday, July 17 – Sunday, July 19, 2015**

Practice/Registration: Thursday, July 16 – Friday, July 17

Glider Categories: Sportsman through Unlimited

Power: Primary through Unlimited

Location: Hartness State Airport (VSF): Springfield, VT

Region: Northeast

Contest Director: Bill Gordon

Phone: 802-585-0366

E-Mail: [wsgordon@earthlink.net](mailto:wsgordon@earthlink.net)

Website: [www.iac35.aerobaticsweb.org](http://www.iac35.aerobaticsweb.org)

## **Cut Bank – Rocky Mountain Can/Am (Northwest)**

**Friday, July 17 – Saturday, July 18, 2015**

Practice/Registration: Wed., July 15 – Thurs., July 16

Power: Primary through Unlimited

Location: Cut Bank International Airport (CTB): Cut Bank, MT

Region: Northwest

Contest Director: Robert Harris

Phone: 503-550-1496

E-Mail: [flyhran@aol.com](mailto:flyhran@aol.com)

## **Super D Tango (South Central)**

**Saturday, July 18 – Saturday, July 18, 2015**

Practice/Registration: Saturday, July 18

Power Categories: Sportsman

Location: Akroville (XA68): Akroville Texas

Region: South Central

Contest Director: Curt Richmond

Phone: 972-335-7043

E-Mail: [curt@airmail.net](mailto:curt@airmail.net)

Website: [www.iac24.org](http://www.iac24.org)

## **Kathy Jaffee Challenge (Northeast)**

**Friday, August 7 – Sunday, August 9, 2015**

Practice/Registration: Thursday, August 6 – Friday, August 7

Power: Primary through Unlimited

Location: South Jersey Regional Airport (VAY): Lumberton, NJ

Region: Northeast

Contest Director: John Fellenzer

Phone: 845-978-0511

E-Mail: [jdf@felp.com](mailto:jdf@felp.com)

Website: <http://iac52.org/>

## **Beaver State Regional (Northwest)**

**Friday, August 14 – Saturday, August 15, 2015**

Practice/Registration: Wed., August 12 – Thurs., August 13

Power: Primary through Unlimited

Location: Pendleton Regional Airport (PDT): Pendleton, OR

Region: Northwest

Contest Director: Teri Branstitre

Phone: 503-407-2543

E-Mail: [oregonaerobatics@gmail.com](mailto:oregonaerobatics@gmail.com)

Website: <http://www.iac77.eaachapter.org/>

## **2015 Canadian National Aerobatic Championship (Mid-America)**

**Saturday, August 15 – Sunday, August 16, 2015**

Practice/Registration: Friday, August 14

Power: Primary through Unlimited

Location: Saugeen Municipal Airport (CYHS): Hanover, Ontario

Region: Mid-America

Contest Director: Phil Englishman

Phone: 519-377-3777

E-Mail: [mickeyd@wightman.ca](mailto:mickeyd@wightman.ca)

Website: [aerobaticscanadachapter3.blogspot.ca](http://aerobaticscanadachapter3.blogspot.ca)

## **Doug Yost Challenge (Mid-America)**

**Saturday, August 15 – Tuesday, August 18, 2015**

Practice/Registration: Thursday, August 13 – Friday, August 14

Power: Primary through Unlimited

Location: Spencer Municipal Airport (SPW): Spencer, IA

Region: Mid-America

Contest Director: Justin Hickson (Temporary)

Phone: 651-338-3345

E-Mail: [jhisbatman@yahoo.com](mailto:jhisbatman@yahoo.com)

Website: [www.iac78.org](http://www.iac78.org)



**The Bill Thomas U.S.-Canada Aerobatic Challenge (Northeast)**

Saturday, August 22 – Sunday, August 23, 2015

Practice/Registration: Thursday, August 20 – Friday, August 21

Power: Primary through Unlimited

Location: Olean Municipal Airport (KOLE): Olean, New York

Region: Northeast

Contest Director: Pat Barrett

Phone: 716-361-7888

E-Mail: [cbpbmb@aol.com](mailto:cbpbmb@aol.com)

Website: <http://www.iac126.eaachapter.org/>

**Ohio Aerobatic Open (Mid-America)**

Friday, August 28 – Saturday, August 29, 2015

Practice/Registration: Thursday, August 27

Rain/Weather: Sunday, August 30

Power: Primary through Unlimited

Location: Bellefontaine Regional (EDJ): Bellefontaine, OH

Region: Mid-America

Contest Director: Gordon Penner

Phone: 513-520-6065

E-Mail: [penner.gk@gmail.com](mailto:penner.gk@gmail.com)

Website: [iac34.eaachapter.org](http://iac34.eaachapter.org)

**Harold Neumann Barnstormer (South Central)**

Saturday, August 29 – Sunday, August 30, 2015

Practice/Registration: Friday, August 28 – Saturday, August 29

Power: Primary through Unlimited

Location: New Century Aircenter (IXD): Olathe, KS

Region: South Central

Contest Director: John Wittenborn

Phone: 913-782-6442

E-Mail: [Chiller\\_52@yahoo.com](mailto:Chiller_52@yahoo.com)

Website: [www.iac15.org](http://www.iac15.org)

**Rebel Regional Aerobatic Contest (Southeast)**

Friday, September 4 – Saturday, September 5, 2015

Practice/Registration: Thursday, September 3

Rain/Weather: Sunday, September 6

Power: Primary through Unlimited

Location: Everett-Stewart Regional Airport (UCY): Union City, TN

Region: Southeast

Contest Director: Michael Tipton

Phone: 573-922-9600

E-Mail: [michael.tipton@hotmail.com](mailto:michael.tipton@hotmail.com)

Website: [www.iac27.org](http://www.iac27.org)

**Rocky Mountain House Aerobatic Challenge (Northwest)**

Saturday, September 5 – Sunday, September 6, 2015

Practice/Registration: Thursday, September 4

Power: Primary through Unlimited

Location: Rocky Mountain House Airport (CYRM): Rocky Mountain House, Alberta

Region: Northwest

Contest Director: Dave Barbet

Phone: (403) 875-3467

E-Mail: [dbarbet@telus.net](mailto:dbarbet@telus.net)

Website: [www.patspencer.ca/aerobaticscanada/AC/Chap7/RockyContest/](http://www.patspencer.ca/aerobaticscanada/AC/Chap7/RockyContest/)

**Hill Country Hammerfest (South Central)**

Saturday, September 5 – Sunday, September 6, 2015

Practice/Registration: Friday, September 4

Power: Primary through Unlimited

Location: Llano Municipal (AQO): Llano, TX

Region: South Central

Contest Director: Jeffery Poehlmann (acting)

Phone: 512 423 5333

E-Mail: [jeffery@texas.net](mailto:jeffery@texas.net)

Website: [www.iac107.org](http://www.iac107.org)

**Happiness Is Delano (Southwest)**

Saturday, September 5 – Sunday, September 6, 2015

Practice/Registration: Friday, September 4

Rain/Weather: Monday, September 7

Power: Primary through Unlimited

Location: Delano Airport (DLO): Delano, Ca

Region: Southwest

Contest Director: Steve De La Cruz

Phone: 760 963 6426

E-Mail: [DelanoCD@iacChapter26.org](mailto:DelanoCD@iacChapter26.org)

Website: [IACChapter26.org](http://IACChapter26.org)

**Apple Turnover (Northwest)**

Friday, September 11 – Saturday, September 12, 2015

Practice/Registration: Wed., September 9 – Thurs, September 10

Power: Primary through Unlimited

Location: Ephrata Municipal Airport (EPH): Ephrata, WA

Region: Northwest

Contest Director: Jerry Riedinger

Phone: 425-985-9469

E-Mail: [jriedinger@perkinscoie.com](mailto:jriedinger@perkinscoie.com)

**East Coast Aerobatic Contest (Northeast)**

Friday, September 11 – Sunday, September 13, 2015

Practice/Registration: Thursday, September 10 – Friday, September 11

Power: Primary through Unlimited

Location: Warrenton Fauquier Airport (KHWW): Warrenton, VA

Region: Northeast

Contest Director: Krysta Paradis

Phone: 925-878-9830

E-Mail: [krysta.paradis@gmail.com](mailto:krysta.paradis@gmail.com)

**Salem Regional Aerobatic Contest (Mid-America)**

Saturday, September 12 – Sunday, September 13, 2015

Practice/Registration: Friday, September 11

Power: Primary through Unlimited

Location: Salem-Leckrone Airport (SL0): Salem, IL

Region: Mid-America

Contest Director: Joe Overman

Phone: 314-452-6049

E-Mail: [joeoverman2000@yahoo.com](mailto:joeoverman2000@yahoo.com)

**U.S. National Aerobatic Championships (South Central)**

Saturday, September 19 – Saturday, September 26, 2015

Glider Categories: Sportsman through Unlimited

Power: Primary through Unlimited

Location: North Texas Regional (GYI): Sherman – Denison TX

Region: South Central

Contest Director: Gary DeBaun

Phone: 612-810-6783

E-Mail: [B747Inst@aol.com](mailto:B747Inst@aol.com)

**Rocky Mountain Invitational Aerobatic Contest (South Central)**

Friday, October 2 – Sunday, October 4, 2015

Practice/Registration: Friday, October 2

Glider Categories: Sportsman Intermediate

Power: Primary through Unlimited

Location: Lamar Municipal Airport (KLAA): Lamar, CO

Region: South Central

Contest Director: Jamie S. Treat

Phone: 303-304-7937

E-Mail: [jamietreat@q.com](mailto:jamietreat@q.com)

Website: [www.IAC5.org](http://www.IAC5.org)

**AIRCRAFT**

**Beautiful 1998 Giles G-200**, N621M, 477TT airframe, engine, & prop, Lycoming IO-360-A 200hp 477 SFRMN, Sky Dynamics cold air induction & 4 x 1 exhaust, SkyTec starter, B&C 8 amp alt., Whirlwind 200C propeller, 45 gallon fuel, 303-709-6465, [2bafree.man@gmail.com](mailto:2bafree.man@gmail.com)

**1993 Yak-55M**, SN930907, 375TTAE, NDH, MTV-9-260-29 200TTSN, sight gauge, B&C, Cleveland W&Bs, smoke, NGK plugs, Air Wolf oil filter, spares crate, more. 4/15 Annual. \$62,500 OBO, [rbasilieri170@gmail.com](mailto:rbasilieri170@gmail.com)

**WANTED**

**Donate your factory built** plane to leave a significant legacy! A charity that provides mission/medical services to remote areas of the world. 970-249-4341 [www.samaritanaviation.com](http://www.samaritanaviation.com)


**SPORT AEROBATICS, WARBIRDS OF AMERICA and VINTAGE AIRPLANE**

Classified Word Ads: \$5.50 per 10 words, 100 words maximum. Classified ads may be submitted online at [https://secure.eaa.org/advertising/classified\\_ad.html](https://secure.eaa.org/advertising/classified_ad.html)



**The Vertical Works**

- Aerobatics
- Spin Training
- Formation
- Pitts Transition

[theverticalworks.com](http://theverticalworks.com)  
Scottsdale, AZ

**732.865.1610**

**AVIATORS UNLIMITED**

**JOHNY WHITE**  
**TRAINING & CLINICS**

Basic to Unlimited Acro & Spin  
Competition Recreation Exhibition  
**MAINTENANCE**  
Maintain Rebuild Repair Pre-Buy

**276-614-0412**  
[www.aviatorsunlimited.us](http://www.aviatorsunlimited.us)



**DENT-AIR, LTD.**

FACTORY DEALER FOR PITTS SPECIAL  
Located At: Leo Airport  
Annapolis, Maryland

**Aerobatics & Spin Training**

Pitts Sighting Devices  
BILL FINAGIN

Hangar 41U 856 0347 Home 410-263-2740  
Fax 410-263-4668 E-mail [billfinagin@cs.com](mailto:billfinagin@cs.com)

**★ AcroBelt ★**

5-Point Ratchet Seatbelt System  
Customized To Fit Your Aircraft  
Details at:  
[www.SilverParachutes.com](http://www.SilverParachutes.com)  
plus

- Great Deals on New & Used Parachutes
- Largest Dealer for Softie Parachutes
- Bailout Safety Seminars
- Complete Rigging Services
- S.M.A.K. PAK™ Parachute Survival Kit!

Silver Parachute Sales & Service  
Phone: 209-632-7070  
Email: [Allen@SilverParachutes.com](mailto:Allen@SilverParachutes.com)

*It's Easy to Advertise with  
EAA's Classifieds!*

**Contact Sue Anderson**  
at 920-426-6127 or  
[sanderson@eaa.org](mailto:sanderson@eaa.org)



**SMOKE SYSTEMS & OIL**

**419-360-7414**  
[WWW.SMOKE-SYSTEM-HELPER.COM](http://WWW.SMOKE-SYSTEM-HELPER.COM)

**ADVERTISER'S INDEX**

ADVERTISER	PAGE	WEBSITE/EMAIL	PHONE
Aircraft Specialties Services	19	<a href="http://www.aircraft-specialties.com">www.aircraft-specialties.com</a>	800-826-9252
Aviat Aircraft	9	<a href="http://www.aviataircraft.com">www.aviataircraft.com</a>	307-885-3151
Aviators Unlimited	32	<a href="http://www.AviatorsUnlimited.us">www.AviatorsUnlimited.us</a>	276-614-0412
Dent-Air, Ltd.	32	<a href="mailto:www.WBFinagin@cs.com">www.WBFinagin@cs.com</a>	410-263-2740
EAA/Falcon Insurance	BC	<a href="http://www.eaallowerrates.com">www.eaallowerrates.com</a>	866-647-4322
EAA AirVenture 2015 DVD	29	<a href="http://www.eaa.org/en/airventure">www.eaa.org/en/airventure</a>	
EAA Credit Card	23	<a href="http://www.eaa.org/AirAcademy">www.eaa.org/AirAcademy</a>	920-426-6817
Ford Motor Company	IFC	<a href="http://www.Ford.com">www.Ford.com</a>	800-392-3673
Harvey & Rihn Aviation Inc.	23	<a href="http://www.HarveyRihn.com">www.HarveyRihn.com</a>	281-471-1675
IAC/USA Unlimited	7	<a href="http://www.iac.org">www.iac.org</a>	
MT-Propeller	27	<a href="http://www.mt-propeller.com">www.mt-propeller.com</a>	386-736-7762
Para-Pernalia	IBC	<a href="http://www.SoftieParachutes.com">www.SoftieParachutes.com</a>	360-435-7220
Plus 5 Aviation, LLC	7	<a href="http://www.Airbum.com">www.Airbum.com</a>	602-971-3991
Silver Parachute	32	<a href="http://www.SilverParachutes.com">www.SilverParachutes.com</a>	510-785-7070
Smoke Systems	32	<a href="http://www.smoke-system-helper.com">www.smoke-system-helper.com</a>	419-360-7414
Vertical Works, The	32	<a href="http://www.theverticalworks.com">www.theverticalworks.com</a>	732-865-1610



**Remember,  
things don't always go  
according to plan!**



*Para-Phernalia Inc.  
Thank You!  
Kelly R. Neil*

*At Para-Phernalia we are very  
proud that Softie parachutes  
were instrumental in saving  
four lives in 1999.*

**SOFTIE**   
**EMERGENCY PARACHUTES**  
THE PROFESSIONALS CHOICE  
from Para-Phernalia, Inc.

**Toll Free: 800-877-9584  
Intl: 360-435-7220  
Fax: 360-435-7272  
[www.softieparachutes.com](http://www.softieparachutes.com)**



Visit [www. IAC.org](http://www.IAC.org)



## It's a whole new way to roll.

Introducing the EAA & IAC aircraft insurance plan with all of the special coverage IAC Members require for recreational aerobatics, aerobatic competition and practice, airshow performances and aerobatic flight schools. When you insure your airplane with the EAA Aircraft Insurance Plan you are supporting IAC.

Get your quote at **EAALowerRates.com**  
or call us toll-free at 866-647-4322.



Aircraft  
Insurance

Standard Category | Vintage | Aerobatics | LSA | Homebuilts | Warbirds | Sea Planes | Powered Parachutes & Trikes | Gliders | Helicopters

The IAC Insurance Program is brought to you by EAA Insurance and administered by Falcon Insurance Agency, Inc.

© 2012 Experimental Aircraft Assoc., Inc.