



SPORT

Aerobatics

OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB

July 2013

- Burning Grass in a Boeing 727
- Flight Cam Solution

Pitts: A Basic Trainer



THE LINCOLN
MOTOR COMPANY

2013
AIRVENTURE
DINER & DRINK

Come Visit Us

Ford Takes Flight at AirVenture



Unique Experiences

- **Chicago in Concert:** Monday 7:00 pm next to the Ford Hangar
- **All-New Lincoln Pavilion:** See the entire lineup and exciting new Lincoln MKZ
- **USAF Thunderbirds Edition Mustang:** One-of-a-kind build for the Young Eagles benefit
- **Fly-In Theater:** Nightly Sunday-Saturday @ Camp Scholler: Special pre-premiere screening of Disney's Planes, others include: Skyfall, Star Trek Into Darkness, Iron Man 2, The Avengers, Octopussy and Those Magnificent Men in Their Flying Machines
- **Meet Henry Ford:** Commemorate the 150th Anniversary of the birth of Henry Ford
- **Atlas Concept Truck:** The future of trucks @ the Ford Hangar
- **EcoBoost Launch:** The extreme bungee launch
- **Raptor Rock Wall, Raptor Racing and Tough Tumblers:** Fun for the entire family
- **Ford Autograph HQ:** Autographs from living legends
- **Free Ice Cream:** Nightly deliveries; watch for the Transit Connect
- **Da Blooze Bros. Live Concert:** Saturday night next to the Ford Hangar
- **Free stuff:** Hats, tattoos and more
- **Ford Fun Factory:** Connect your world with free e-mail stations, social media contests and new this year – Transit Talent Search
- **Model T Experience:** Model T rides @ the Ford Hangar

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 on this exclusive opportunity for EAA members to save on a new Ford vehicle, please visit www.eaa.org/ford.

partner
recognition
VEHICLE PURCHASE PLAN

FEATURES

- 4** **Pitts as a Trainer**
by Budd Davisson

- 12** **Cutting Grass With the Boeing 727**
by Mark Benton

- 16** **iPhone What Else Do You Need?**
by Patrick Carter

"I said 'basic trainer,' as in the same basic training category as a C-152 or a Piper Cub." —Budd Davisson



COLUMNS

- 20** / Ask Allen

- 32** / Meet a Member

DEPARTMENTS

- 2** / Letter From the Editor

- 3** / News

- 24** / Contest Calendar

- 31** / FlyMart & Classifieds



THE COVER

Grady Marx flies his Pitts S-2b for EAA's camera crew during a recent AirVenture. Photo by Bonnie Kratz.

PUBLISHER: Doug Sowder
 IAC MANAGER: Trish Deimer-Steineke
 EDITOR: Reggie Paulk
 EDITITOR IN CHIEF: J. Mac McClellan
 SENIOR ART DIRECTOR: Olivia P. Trabbold

CONTRIBUTING AUTHORS:

Mark Benton	Gary DeBaun
Patrick Carter	Reggie Paulk
Budd Davisson	Allen Silver

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

ADVERTISING
 Katrina Bradshaw kbradshaw@eaa.org
 Sue Anderson sanderson@eaa.org
 Jeff Kaufman jkaufman@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

The International Aerobic 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 © 2013 by the International Aerobic Club, Inc. All rights reserved.

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

A STATEMENT OF POLICY The International Aerobic 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 Aerobic 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 Aerobic 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 Aerobic 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



REGGIE PAULK
 COMMENTARY / EDITOR'S LOG

July can only mean AirVenture

But first, the Boeing 727 & the Pitts as Trainer

THIS MONTH, WE TAKE A SMALL detour off the beaten path to talk about two subjects rarely mentioned in the world of Aerobatics—the Boeing 727 and Pitts as a basic trainer. How does a Boeing 727 have anything to do with aerobatics, you ask?

... burning the grass
 at Denver Stapleton
 back in the day.

Mark Benton contributed a story in a previous issue of the magazine dedicated to his love affair with a certain Pitts biplane. Through our conversations, I learned he is an airline captain, and used to fly sideways on a Boeing 727. One thing led to another, and before I knew it, we were talking about burning the grass at Denver Stapleton back in the day. His story was so interesting, I just had to include it in *Sport Aerobatics*. He even manages to tie flying the big Boeing into aerobatic flying during the course of his musings.

Budd Davisson is one of those characters in the aviation world whose name has become synonymous with a certain aircraft type—in this case the Pitts. He is well known as the guy who will teach you how to land a Pitts over and over while keeping it in one piece. During the course of thousands of hours teaching others to fly the airplane, he has come to a much deeper understanding of its capabilities. She may be fast and small and super sensitive to the slightest input, but Budd has one conclusion; the Pitts biplane is the ideal *basic* trainer. And why not? I only wish I had started out in a Pitts!

Is it July already? That can mean only one thing; Oshkosh! We'll be there at the IAC building and Vicki Cruse Pavilion on Phillips 66 Plaza—the best seat in the house. Come on down, sit in the shade and enjoy listening to an all-star lineup of speakers. The list includes such names as Gary DeBaun, Rich Stowell and Patty Wagstaff. I'll see you there! **IAC**

IAC AirVenture Lecture Schedule

Preliminary preview of attractions

Date	Start Time	End Time	Event	Location	SpeakerName
7/31/2013	10:00 AM	11:15 AM	Aerobatics – why get into competition?	Aerobatics Pavilion – IAC HQ	Patty Wagstaff
7/31/2013	11:30 AM	12:45 PM	Aerobic Wiring, Oil Systems, and Lightweight Starters	Aerobatics Pavilion – IAC HQ	Bill Bainridge, B&C Specialty Products
7/31/2013	1:00 PM	2:15 PM	Falling with Style: What You Can Learn from Spins	Aerobatics Pavilion – IAC HQ	Michael Church
8/1/2013	10:00 AM	11:15 AM	Art & Aerobatics: Joining Two Passions through Painting	Aerobatics Pavilion – IAC HQ	Lise Lemeland
8/1/2013	11:30 AM	12:45 PM	Cultivating NextGen Aerobatics: the Collegiate Program	Aerobatics Pavilion – IAC HQ	Michael Lents
8/1/2013	1:00 PM	2:15 PM	Stearman Aerobatics	Aerobatics Pavilion – IAC HQ	David Burroughs
8/2/2013	10:00 AM	11:15 AM	Loss of Control	Aerobatics Pavilion – IAC HQ	Rich Stowell
8/2/2013	11:30 AM	12:45 PM	"No plane? No Problem" Volunteering at a Contest	Aerobatics Pavilion – IAC HQ	Gary DeBaun

Like airshow performers prepare for flight, prepare for your AirVenture week.
Check the latest IAC schedules for exciting attractions you won't want to miss.



Pitts as a Trainer



A red and blue Pitts Special biplane is shown from a low angle, performing a sharp roll maneuver. The aircraft's wings are tilted almost vertically, and its propeller is blurred, indicating motion. The background is a dark, textured sky.

The best there is.

BY BUDD DAVISSEN

RIGHT UP FRONT I WANT TO CLARIFY that this is an editorial essay more than it is an article, and I'm in no way taking a neutral position. What follows is my personal opinion, and that opinion is that Pitts Specials, especially the S-2A and -B, are hands down the very best basic trainers in aviation's broad inventory of trainers.

Reread that last paragraph. I didn't say aerobatic trainer. I said "basic trainer," as in the same basic training category as a C-152 or a Piper Cub. This is based on something over 7,000 hours of dual, given in a wide variety of trainers with more than 5,400 hours of that in a Pitts, in the pattern, at an average of seven to eight landings an hour spread across 42 years.

We should also probably clear up another point about the opinion I'm about to share. I teach aerobatics, as all Pitts instructors do, but the vast majority of my instructional time is teaching landings. And everything you know about flying is compressed into the short period between downwind and touchdown.



BONNIE KRATZ

If your basic stick-and-rudder skills are weak, you'll find that getting the airplane into the "sweet spot" in ground effect just before touchdown is a helluva challenge. In fact, the widespread, and wildly erroneous, reputation of the Pitts is built upon what people think is squirrely ground handling, but isn't. The reputation should actually be built around the higher-than-normal demand placed upon the pilot's basic skills while flying the approach and getting the setup for the touchdown correct.

I'm not going to get into my feelings about how ground roll should be handled, nor am I going to get into how I personally teach approaches. Every Pitts pilot and every Pitts instructor has his own way of doing it, and everyone is convinced that they are the only ones who are right. It's a ridiculously contentious subject.

I am, however, going to make a flat statement that all Pitts pilots (and *any* taildragger pilot for that matter) will agree with: The character of the ground roll is a direct function of the quality of the touchdown. Probably 80 percent of taildragger ground-handling accidents can be traced back to a bad touchdown: it was either crooked, or drifting, or both. A bad touchdown sets up the dynamics that are then often made worse by poor, or misunderstood, rudder technique. But that's another subject for another day.

What I'm saying here is that the landing roll is a thousand times easier if the touchdown is straight with no drift. Very, very basic flying skills are required to make that kind of touchdown. And here's the statement that's going to piss off a lot of readers, and is the core of my argument: all the Pitts asks you to do is fly it, as if you're a 10-hour student getting ready to solo. That's when your basic stick-and-rudder skills are usually at their peak. But, in



AARON LURTH

What I'm saying here is that the landing roll is a thousand times easier if the touch- down is straight with no drift. Very, very basic flying skills are required to make that kind of touchdown.

my experience, the basic skills of far too many pilots aren't at that level. And that is what my evaluation of a Pitts S-2A or -B as aviation's best trainer is based on.

When it comes to teaching and honing basic flying skills, the Pitts has no peer because everything about its aerodynamics is absolutely raw. There has been no attempt to engineer out those basic forces, which every airplane has, but aren't nearly as obvious in other planes.

I'm talking about stuff like gyroscopic precession (a tailwheel specialty), P-factor (a major element in Pitts control), adverse yaw (a big deal as AOA changes),

etc. These, and a lot more, are part of Ground School 101, but are barely noticeable in most late-generation airplanes because of careful engineering tweaks. This is especially true of trainers.

The result is that instructors can get by without harping on, or correcting for, these physical traits, because the nosedragger trainer really doesn't care how you put it on the ground. So, lots of instructors don't care either. The result is PPL pilots with weak basic skills that are generally carried throughout their entire careers. This isn't a hyper-serious problem, and is generally barely noticed. Until they strap on a Pitts, that is.

The Pitts absolutely won't let you get away with ignoring the basics. In fact, much of the airplane's reputation for difficult landings comes from pilots who are flying the airplanes more or less successfully but are having periodic problems strictly because their basic skills are so weak and the Pitts is punishing them for it. Incidentally, it's really easy to fly great aerobatics but have basic skills that are just rough enough around the edges to cause problems in non-aerobic Pitts aviating.

So what are the specifics that make the Pitts such a great basic trainer? There are many, and it's



easiest to describe them one at a time.

The Aerodynamics Have Not Been "Improved"

Virtually every certified aircraft has to have its aerodynamics "dumbed down" a little to make it more saleable to a market that includes "ease of aviating" in its list of gotta-haves. The fin is often offset to take care of torque, and to a lesser extent, P-factor effects. Some will have the motor mount offset a little. All of those aircraft will have differential ailerons in an effort to minimize the need for rudder input by minimizing adverse yaw while rolling into a turn. Note I said minimize adverse yaw, not eliminate. It'll always be there in every airplane, but it is so tamed that it's difficult to tell it's there except in extreme maneuvering. This is not so with a Pitts.

The Pitts was *not* designed to be flown by a little old lady from Keokuk with wrinkled socks, as most certified A-to-B aircraft are. It is aimed at a narrow niche, populated by performance-oriented pilots. They don't want the airplane's performance or handling compromised by making it "easier."

The net result is that in a Pitts, every one of the basic laws of physics affecting an airplane is right there in your face. It's like a mirror held up to the pilot, and he/she can clearly see where his/her basic skills are deficient without being told. In fact, it's like the concave side of a shaving mirror that shows every zit and whisker on your skills, sometimes in embarrassing detail.

Keeping the Ball Centered Is Sacred

It sounds silly to say, "Keep the ball centered." It's so basic that most of us feel as if it doesn't need discussing. But, it does when flying a Pitts, because there's nothing about the

airplane that's going to make that an easy endeavor for a pilot. So much of modern aero engineering is aimed at lightening the ball-centered load for the pilot.

Not having to worry about keeping the ball centered makes flying so much "easier." But in the Pitts, we're not looking for "easy." For that reason, you absolutely have to worry about the ball because our efficiency and our flight paths are dependent on it. In a climb, for instance, if the ball is allowed to slide out until it doesn't quite touch the lubber line, it can cost as much as 300 fpm in climb. Ditto on the glide.

A Pitts is fairly fast for a dirty old, wire-and-strut braced biplane, because everything is carefully shaped and lined up to slice through the wind. But, let the ball get off-center and its drag coefficient goes from that of a pool cue to that of a tumbleweed in only a few degrees. And keeping the ball centered means the pilot is *always* paying attention to his butt ("Step on the ball, step on your butt").

P-factor Is a Factor

Every airplane with a propeller has P-factor, and it's eye-opening to see the difference between a Spamcan and something like the Pitts. First, nothing is compensated for in the airframe, so the pilot is expected to do the compensating. That's what our feet are for. It always amazes even Pitts pilots, who don't know they are automatically compensating for P-factor, when you ask them to take their feet completely off the rudders in a full power climb: the airplane wastes no time in twisting into a hard left turn with the ball against the right end of the tube. And it amuses them, when you ask them to keep their feet off the rudders in that same situation, as they cut the power and set up a glide: as the speed falls, the nose swings right and the ball crosses center, headed for the other end of the tube. Every time the power is changed the nose/ball is going to go somewhere it's not supposed to be unless the pilot stays right on top of it.

Do the same thing in a 172 and it's hardly noticeable. To most pilots, P-factor is a theoretical entity to which little attention is paid. Not so in the Pitts. It becomes an integral part of your thought pattern, and you become a better pilot because of it.

There's Adverse Yaw and There's Adverse Yaw

As with everything else in the Pitts, when it comes to adverse yaw, it carries the laws of physics to extremes, asking the pilot to do that "pilot stuff" to compensate for them. In normal cruise flight, the airplane has only a little adverse yaw. Still, if you do Dutch rolls (roll from a 30-degree right bank to a 30-degree left bank in coordinated flight), you hardly know you're using the rudder

HARVEY & RIHN AVIATION INC.

101 AIRPORT BLVD. LAPORTE, TX 77551 (281) 471-1675

AEROBATICS
Basic through Unlimited
Competition & Sport
Safety & Proficiency
Basic & Advanced Spins

MAINTENANCE FACILITIES
We specialize in
Fabric
Tailwheel
Aerobatic Aircraft Repair

Pitts S-2B
Super Decathlon
Citabria

Owned and operated by Debbie Rihn-Harvey

Covered Tumbler

\$9.99

The IAC plastic travel cup has a screw on lid. Comes with its own colorful straw. Holds 23 oz. of your favorite beverage.

Order by phone:
800-843-3612

Red	7266912100020
Green	7266912100051
Aqua	7266912100061
Pink	7266912100011

www.iac.org 9



to keep the nose straight ahead. If you take your feet off the rudder and keep rolling from bank to bank, the nose will wander maybe 10-15 degrees left and right. However, slow the airplane down and increase the angle of attack and the story starts to change.

Slow it to 90 mph, for example, a common Pitts approach speed, and roll into banks left and right with zero rudder and you'll see the adverse yaw has increased probably 30 to 40 percent. So, more rudder is needed at that speed to keep the nose in front of the pilot.

Now comes the eye-opener: slow the airplane to 70-75 mph, the speed you'll be traveling as you're in the act of flaring and holding it off for landing. Do the same bank-to-bank changes: the adverse yaw is now so high that you actually see reverse command for a few seconds on each bank, e.g. the stick goes to the right,

but the nose goes to the left. And that's where a lot of crooked touchdowns come from: messing with the ailerons in flare without coordinating and/or keeping the nose straight ahead.

No Dead Spot

Most pilots are constantly moving their hands in tiny little patterns without realizing it. This is a muscle memory thing that comes from flying Spam-cans, where they are continually moving the controls in the dead spot that encircles neutral. This is no problem in something like a 172, but the Pitts has no dead spot. None. Zero. Nada. Pressure the stick a fat 1/16-inch to the side, and the ball will slide off center, the wings will move.

The rudders take only the slightest, immeasurable pressure to produce the same results. And this is where the image of the Pitts

being squirrely in the air comes from. And this is the way you want a machine of any kind to be. You want it to do exactly what you ask of it with no approximation.

With no dead spot to absorb their uncommanded hand movements, new Pitts pilots find themselves fighting the airplane. And they say it's squirrely. However, it's not. What it is, is reactive. It's doing what the pilot asks of it, but too often the pilot doesn't know what he's asking for. What we're doing is taking people out of Winnebagos and putting them into 911 Turbo Carreras, and it takes a little while to realize the airplane is exactly mimicking your every motion. If you don't want the airplane to move, don't ask it to move. This is the moral behind flying any airplane, but the Pitts drives it home with no doubt showing.

Precision Is Everything

The Pitts is the sharpest tool in the tool box and, if you expect to do good work of any kind you need a sharp tool. The drawback to a sharp tool is that if you make a mistake it'll be a big one, so you do your best to be as exact as possible with it. And this is one of the major factors that make the Pitts such a great trainer. It simply won't tolerate lackadaisical anything. We've all heard that the landing is made in the approach, and nowhere is that truer than with the Pitts.

The placement of downwind, the height and distance out, are all critical. As is the need to control the nose attitude exactly so the speed can be as stable as possible. Not a small task. And the track across the ground, which will usually be at an angle to centerline, should always be pointed at the point on the runway where you want to land. The runway doesn't exist. Only the desired touchdown point counts. If any of these fac-

tors are approximated, the landing itself becomes approximate, and sometimes downright ugly.

All of this is abundantly clear to students/pilots. They learn quickly that the better they control all of the factors while inbound to the runway, the better the landing itself will be.

Pressure, Not Increment

Everything about the controls begs the pilot to use pressure, rather than actual movement of the controls, to make it do his bidding. All airplanes love being pressured, not rammed, into position. Everything is a squeeze. A caress. And the result is a smoother, more sensual flight and no airplane does sensual as well as a Pitts.

If there is one drawback to the Pitts as a basic trainer it is that it ruins you for every other airplane you'll ever fly. Unless you're climbing the aerobatic ladder, every other airplane is likely to be a let-down, by comparison.

IAC

**VOTE
TODAY**
**IAC needs
your help to get
the Lightspeed
Foundation
Grant.**
**Go online
today at**

***www.lightspeed
aviationfoundation.org***

*Who would ever think
24 feet of nylon could
feel so good?*

**RELIABLE
COMFORTABLE
LIGHTWEIGHT
CUSTOM FIT**

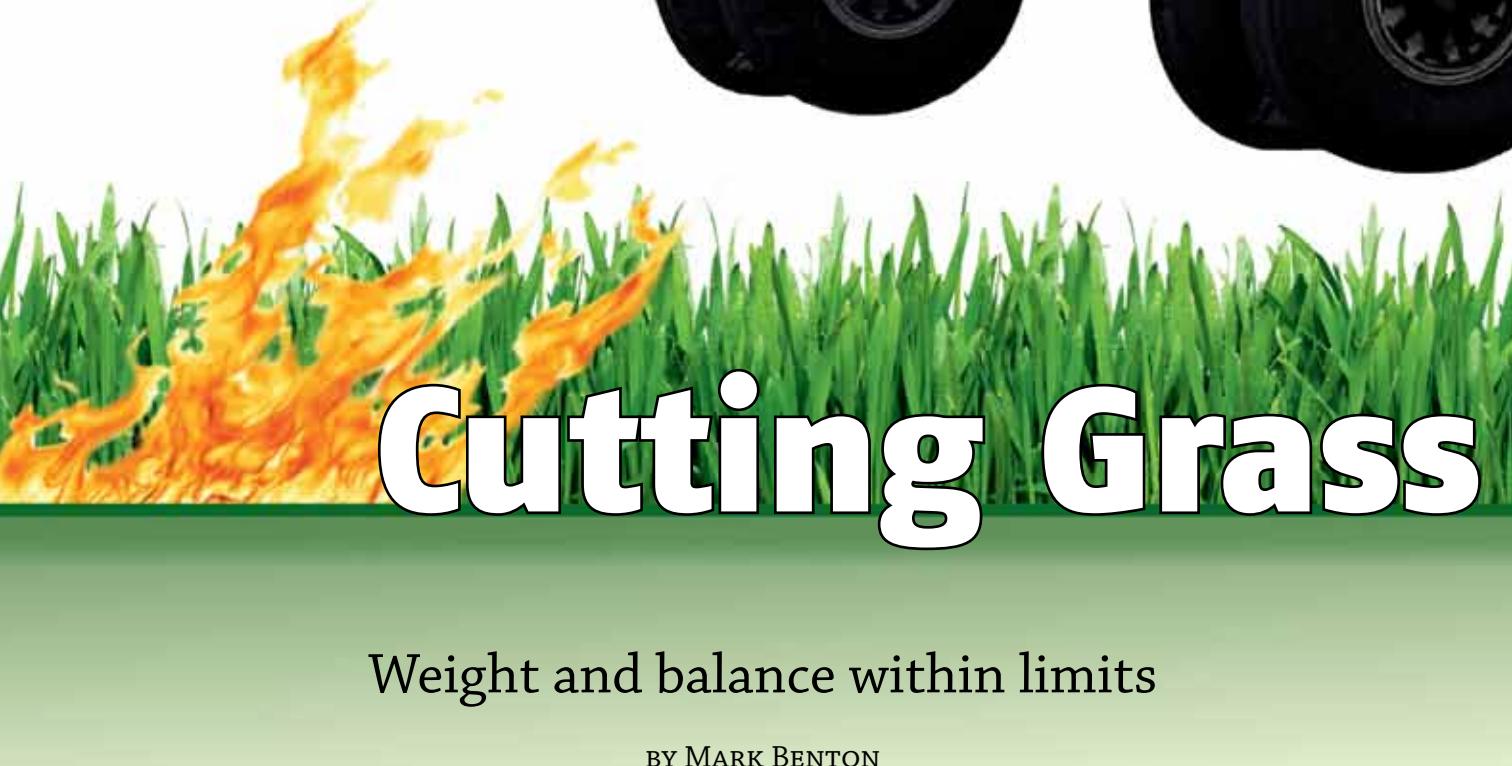
**SOFTIE®
Emergency Parachutes**

THE PROFESSIONALS CHOICE

Voice: 360 435 7220

Fax: 360 435 7272

www.softieparachutes.com



Cutting Grass

Weight and balance within limits

BY MARK BENTON

Reggie, you mentioned to me that when you were 15 years old, you took off as a passenger from the Denver airport on a hot summer day and it seemed you barely got airborne as the aircraft ran out of runway. You stated, "I was a passenger on a UAL 727 out of Denver Stapleton when I was about 15 years old. I was sitting in the window and swear we were low enough to set the grass on fire at the departure end of the runway. That beast took forever to climb out of there that day!"

I remember Denver quite well as I was based there in the 1980s. Your departure experience from Denver as a young man was probably either on Runway 17 or 35 at the old Denver Stapleton airport. On a hot summer day and at max gross weight—which was around 174,000 on our B-727s—that takeoff was a breath-taker even for the pilots. Back then the "numbers" for the takeoff were compiled by the flight engineer (FE) who was usually a "new hire" or at least a very junior pilot at our airline. The FE received a weight and balance sheet from the company tell-

ing him how much that particular aircraft weighed empty, how much fuel and cargo was on board, and how many passengers they had. It was not unusual on a light aircraft to have passengers move to different seats to keep the weight and balance within limits. The FE went to these two huge beat-up books that were stored on the flight deck and decided which power and flap setting would be used based on the length of the runway, the pressure altitude, and the temperature outside. This information would be entered onto several graphs and charts, and the resultant data was handed to the pilots up front on a small 6-by-8 inch piece of paper complete with the exhaust pressure ratio (EPR) power setting, flap setting, and V-speeds. The pilots would then set these speeds on their airspeed indicators manually using plastic markers called "bugs." If the FE screwed up, the results could be catastrophic . . . and they sometimes were.

An airplane is an airplane whether it is a Pitts, a Citabria, or the ancient B-727. The prin-

ples of aerodynamics still apply. If you go to any competition, you are going to have to prove to the starter that your aircraft is within its weight and balance limits. As we all know, this is done because if your weight and balance is not within limits, your aircraft will not fly properly, and just like the B-727, the results could be disastrous. The accuracy of your weight and balance is especially important for a pilot who is going up to perform precision aerobatics.

The B-727 was usually taxied out on two engines to save on fuel. The third engine was started as the aircraft held short for takeoff. The actual starting of the engine was initiated by the first officer; however, the captain actually controlled the start lever. Once the engine was started, the flight engineer scrambled to get the generator of the third engine synchronized with the other two engine generators by rotating a knob and watching blinking lights on his panel and then throwing its generator online as the B-727 was taxied onto the runway. A warm-up of three minutes was required for the third



with the Boeing 727

engine, and this was usually accomplished as required. After getting the third generator online, the flight engineer would reach down to his right and shut down the auxiliary power unit (APU) that was located in the right wheel well. The exhaust for the APU came out the top of the right wing root, and more than once the shutting down of the APU caused a panic in the back with the passengers who sometimes saw a “backfire” of smoke and flames shoot up into the air as the APU gave its last gasp before shutting down. This was actually quite harmless, but this event *did* at times cause some unwanted excitement. There is the story of a B-727 that was cleared for takeoff from Denver one day, and as the pilots started to apply power, the tower immediately canceled their takeoff clearance. When the pilots asked why their takeoff had been canceled, they were told “because you have a bunch of passengers on your wing” . . . apparently one passenger saw flame shoot out of the APU exhaust and yelled “FIRE!” And that was all it took to start a spontaneous

and self-induced evacuation of the passengers through the over-wing exits.

Back in the B-727 days, the pilots worked together as a team to get the aircraft ready for flight, and even then, there were unexpected surprises at times as was the case in the impromptu passenger evacuation. Before the aircraft was even taxied, three checklists had to be completed: the receiving aircraft checklist, the before-start checklist, and the after-start checklist. After releasing the brakes for taxi there was a taxi checklist to be completed, and just before launch, there was a before-takeoff checklist. It is not a bad idea to have some written checklists for your personal aircraft as well, and most pilots do have something to double-check their memory. There is nothing worse than taking off without your canopy secured or your gas tank cap sitting in your guide wires. Of course when those inevitable surprises do occur, it is always best to slow things down a bit, remain calm, and fly the airplane first—even if you are still on the ground. I re-

call one bright morning in Newark, New Jersey, we were stopped on a taxiway with a dozen other aircraft awaiting takeoff on Runway 11 when we noted that the B-727 ahead of us still had its gear pins in place, orange flags waving off each one of them. How do you tell the crew that they have a problem without embarrassing them? I was a first officer on the B-737-200 at the time, and my captain simply picked up the radio and said “gear pins.” About two minutes later, the back stairs of the B-727 ahead lowered and out popped a very young-looking flight engineer, complete with his hand on top of his head holding his hat in place despite the gusts from the many jet engines around him. We watched him scurry under the jet and pop out the three gear pins, then scramble back on board. Slowly the rear stairs closed back up...that must have been a lonely walk back up to the flight deck holding those greasy gear pins in his hand in front of all of those passengers. However, that was some innovative thinking by the crew even though one might wonder

**On a hot day, we would roll along like this
for a little while feeling the main gear bouncing
over the runway bumps before the mains
finally left the runway, and then there was this
very cool almost complete silence.**

if that was the best way to handle the situation. I still chuckle a bit today when I think about the dozen or so crews in that lineup whose eyebrows went up when the captain said “gear pins” over the radio. I am sure that they all looked to make sure that THEY had their gear pins in that dirty plastic case stuffed somewhere on the flight deck. Only one crew found that they were missing. Little things that are missed can cause big problems if they are not resolved before takeoff—one way or the other.

On those hot summer days in Denver, holding short of the runway, the pilots up front watched with interest as the aircraft ahead took off. On hot days, WHERE that aircraft rotated and eventually lifted off was a matter of interest to them. The flight engineer was too busy to look at anything at that point. The noise from aircraft taking off with the old JT8D engines was re-

ally something. It was a “manly man” noise complete with a light trail of black smoke, and nothing like the quiet whisperings of the high-bypass engines of today. When the bank of aircraft left Denver at different times of the day, the thunder of the engines from departing jet after jet could be heard miles away.

As the aircraft rolled out onto the runway, the flight engineer would slide his seat up so he sat right behind the center console and between the two pilots . . . he was the “autothrottles.” The power (throttles) was pushed up by whichever pilot was flying, and the FE would reach way forward and trim the power and then look up to watch the runway ahead as the aircraft accelerated (accelerated may be a bit too aggressive a term for a fully loaded B-727 (“lethargically rolling faster” would better describe the takeoff process). The only sound you would hear was an increased rush of

air from the packs because the engines were so far behind the flight deck that they could not be heard at all. You could feel the bumps of the runway under the nose wheel and the mains as the speed picked up. At rotate speed (V_R), the flying pilot would start a slow rotation and the flight deck would of course be raised off the runway while the main gear was still on the runway. On a hot day, we would roll along like this for a little while feeling the main gear bouncing over the runway bumps before the mains finally left the runway, and then there was this very cool almost complete silence. The engines were so far back there that you did not hear them, and the slipstream was not fast enough to make any noise yet on the windshield. So there you were, flying at about 180 knots but no noise except the pack air coming through the cooling vents. This was a weird experience for pilots who are used to the roar and loud engine noise of most aircraft they had flown.

In Denver I recall MANY take-offs when I was sweating out my calculations as the end of that runway was obviously approaching at a rapid rate and we were not close to flying speed yet. The worse thing was, seemingly at the last moment, we would rotate at V_R with the end of the runway RIGHT THERE, and because of our angle of attack upon rotation, the end of the runway would disappear below our nose so we could not see it anymore, but our mains were still on the runway behind

us. We knew that we had very little concrete left, and that got your attention every time! We would sit there about 30 to 40 feet in the air, but those main gear way behind us were still thumping and bumping on the concrete. Eventually, the bumps would cease as the mains lifted off, and we would all breathe a quiet sigh of relief. With a call of "positive rate, gear up," the nonflying pilot would reach forward and lift the large gear lever, and we would hear and feel the rumbling of the gear coming up. After the gear was up, it was even quieter on the flight deck. Our initial rate of climb on those hot days was something around 500 fpm (hopefully)—nothing like our modern aircraft. We would accelerate on a flat climb-out as we cleaned up the flaps and slats, and when clean at 250 knots, the B-727 would fi-

nally start to climb at a reasonable rate. Out of 10,000 feet, we would usually accelerate to 320 knots or better in the climb. With the added speed, the noise on the flight deck would increase substantially as the air accelerated across the windshield. At these higher speeds and at cruise, the flight deck of the B-727 was actually quite loud.

As all pilots know, density altitude affects all aircraft. Sometimes we need more altitude before starting down the back side of that low-level loop. Sometimes we need more speed before initiating that slow roll on takeoff. Sometimes we need less gas or fewer people on a takeoff from a short runway at noontime on a hot day. In the old days on the B-727, line pilots never took density altitude for granted—you shouldn't either. There is no worse feeling than be-

ing out of runway without the airspeed needed to lift off. Those trees at the end of the runway get big and tall pretty quick on a hot summer day when a pilot who landed a couple of hours ago for a burger at the local airport restaurant with no problems because it was cooler tries to take off on the same runway when it is 15 degrees warmer. Like the B-727, your performance will be degraded more than you might realize, so don't get caught in this trap.

Here is something to help win that beer at the local brewery after a hard day of aerobatics in the box. Most people do not know this, but in the B-727 there is actually a piece of wood installed on the aircraft from the Boeing factory, and it is behind the flight engineer's panel—probably the last piece of wood the factory installed on any Boeing aircraft. **IAC**

We Can Teach ANYONE to Land A Pitts

or Skybolt, Eagle, Model 12, Extra, etc.
"We emphasize stick and rudder basics."

- 39 years instructing in a Pitts.
- Specialize in low-time pilots, cross-winds and narrow, short runways
- Yeah, we teach acro too.

Accommodations Available
 Complete Resort Amenities, Families Welcome.

It's Always Sunny In Phoenix



Budd Davisson's
Plus 5 Aviation, LLC
 602-971-3991 • buddairbum@cox.net • Phoenix, AZ 85028



Former Students Say:

Budd is one of the best instructors I've ever flown with. He has more knowledge to share about the Pitts, and flying in general, than anyone. -Mike Melville

...I had to dead stick my Pitts in and an old timer said "Nice save. Someone taught you well." Yes they did! Thanks, Budd. -Craig H.

My insurance company covered me, a low-time, low-tailwheel-time pilot in a single-hole Pitts largely because I went to Budd for my training. -Tom P.

... the engine failed at low altitude and the accident investigators said that my fundamentals saved me. Thanks my friend. -Maynard H.

www.airbum.com

iPhone What Else Do You Need?

NflightCam provides flight cam solutions for all applications

BY PATRICK CARTER

Ever wondered when your iPhone/iPad is going to be a required piece of equipment? Little did we know that when Steve Jobs announced the iPad on April 3, 2010, that he was going to revolutionize the aviation industry. Since then we have seen everything from full-blown navigational apps such as ForeFlight to engine management and \$100 hamburger apps. It seems as if you have to have an app to even exist these days. Although the iPad has led in the cockpit, the iPhone has not been far behind providing a smaller but trusted backup. Most people don't realize that the iPhone 4S and 5 pack a full-HD video camera along with all the other bells and whistles in their sleek, easy to use interface. NflightCam has provided a solution for those of us who do not want to go to the trouble or expense of mounting dedicated POV* cameras. The iPhone provides a one-stop shop for shooting, editing, and sharing. The NflightCam for iPhone kit removes the annoying propeller distortion common to all POV



cameras and also provides an audio cable with a noise-canceling circuit, providing crystal clear audio.



Filmed with Nflightcam for iPhone kit



The NflightCam for iPhone kit turns the iPhone into a flight cam by clamping onto an iPhone 4 or 5, providing a wide-angle lens and propeller filter. The nice thing about this clamp is that it is universal, fitting on both the iPhone 4, 5, and hopefully 6. It will also fit on many Android phones such as the Samsung Galaxy SIII, S4, and Motorola Razr, but Nflight only supports its use on Apple products at this time. This device was designed for the typical general aviation cockpit, but with some tape or rubber bands to secure the phone, it can work in the aerobatic cockpit, too. The 1/4-inch by 20 mounting hole is universal to all cameras, so if you already have RAM equipment for a GPS or another camera it will easily adapt. If not Nflight sells a PanaVise suction cup for \$39.99. This suction cup has been tested to +/-12g, and as long as it is properly installed on a clean smooth surface it is rock-solid.



Most of us know how to use the camera on the iPhone, but editing video is a little more advanced. The good news is it is not hard or expensive. Apple offers iMovie for iPhone in the App Store for \$4.99. iMovie is a great app that allows for editing, clipping, adding music, transitions, and special effects all on your mobile device seconds after shooting. It even offers trailers with tips and tricks to craft a Hollywood-quality trailer

of your latest adventure. When you are finished with the edit, iMovie allows you to export the clip and save it to your device or post directly to YouTube, Vimeo, or Facebook. This capability sets the iPhone apart from the competition as a flight cam. Never before have we been able to shoot, perform advanced edits, and share from the same device seamlessly.



Even though the iPhone is the most versatile flight cam solution, it does not work for every application such as mounting outside an aircraft or in or near an area that might get covered with smoke oil or fuel. In addition to durability, the GoPro Hero3 Black Edition provides some features for the aerobatic pilot that have never been available for under \$30,000 such as 4K resolution and 120 fps at 720p. Nflight recently filmed an inverted ribbon cut using the 120 fps, and the slow-motion results were amazing.



Nflight's line of accessories for the GoPro Hero3 include exterior mounting kits, propeller filters, and audio cables. Although the investment in GoPro equipment is more significant than an iPhone, the results are amazing. If you are an air show performer or trying to get your name out there, they are a must-have. Rob Holland, Jeff Boerboon, and many other top competitors and performers all use this equipment to capture their flights.

Since the Hero3 uses a CMOS sensor the shutter speed is not controllable; therefore, the propeller streaks unless the speed is modulated using a filter. Nflight provides two filters: one that fits on GoPro's waterproof case for mounting outside the aircraft, and one that fits on the camera itself, allowing access to the audio input for mounting inside the cockpit.

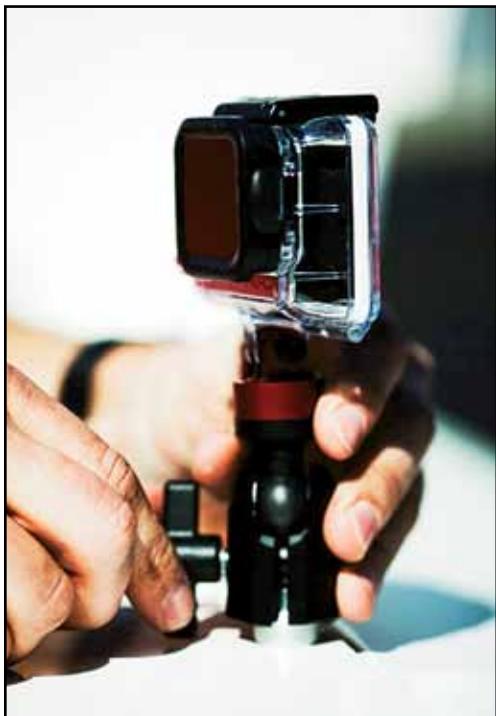


In addition to filters, Nflight's mounting solution is essential for mounting the GoPro outside an aircraft to capture the amazing angles that we are all used to seeing on YouTube. Although some have successfully mounted cameras outside their aircraft using the stock plastic adhesive mounts from GoPro, numerous failures have been reported. Needless to say a camera coming loose in flight poses an imminent danger to both the pilot and anyone on the ground. Nflight's mount is milled from billet aluminum and secures the camera to the airframe anywhere a #6, #8, or #10 machine screw is attached.



If you want to mount your GoPro in the cockpit and capture the pilot's point of view, the NflightCam cockpit kit filters the propeller and provides an audio input from your intercom. The Hero3 does not have any mounting provisions on the camera itself, so it must be placed inside the waterproof case, preventing access to all of the inputs. Nflight designed a filter and holder for the camera that provides 1/4-inch by 20 mounting provisions, allows access to all ports and filters the propeller.

This can be a great tool when practicing for a competition because you can capture your point of view and use it as an audio note-taking device by simply speaking into your mic. It will also capture all radio transmissions so you will have a record of any critiquing from the ground. The audio cable has a noise-canceling circuit to eliminate EMI in the most challenging environments. **IAC**



In addition to designing this to attach to the airframe securely, Nflight also replaced the stock thumb screw that attaches the camera to the mount with a socket-head screw that allows enough torque to be placed on the camera to keep it from blowing back in the slipstream. Each kit from Nflight includes the socket head screw and appropriate Allen key for tightening.

*POV, point-of-view: Term used to describe small wearable video cameras.



Safety in many different flavors

I must be getting through to many of you because I've written and talked a lot about proper packaging of your parachute(s) when you send them to your rigger for servicing. My subliminal messages are working. In many cases too well. I now receive boxes that take me longer to open and get the parachute out of than it is to pack. I'm sure the people selling the bubble wrap and tape are very happy, and so am I.

I read many aviation magazines each month as I'm sure most of you do as well. They all have safety articles on how to do things better and safer. Many are reports on accidents or incidents and how to prevent them. Most are repeated over and over in many different flavors by many different people in many different magazines, trying to get you to take on various mindsets about safety. They often have a familiar message; just the names and dates are different.

I've noticed most of my customers are paying closer attention to keeping their parachutes properly maintained between repacks, and for that I'm glad. They probably don't want me to call and remind them to be more careful. Whatever works is fine with me. Taking on a positive mindset about your equipment and your safety is important. It saves me a lot of unnecessary repair work, and

your attention to detail could save your life.

However, I still have parachutes arrive with missing elastic keepers, bent rip cord pins from not being careful when climbing in and out of your aircraft, and a few other issues. The elastic keepers may not seem important, but they are there to keep the webbing from blowing around in the wind. If you are clawing your way out of your aircraft during an emergency egress, one of those loose ends could catch on something and leave you hanging on the side of your aircraft. A bent rip cord pin could prevent you from pulling the rip cord. Don't make a bad day worse. Paying attention to the smallest of details could be the one factor in the equation that saves your life. My seminars discuss in detail keeping a positive attitude (mindset) about bailing out. That's the focus of this month's column.

I just finished reading an excellent article about mindsets. The author did a wonderful job about explaining the difference between a "fixed-mindset" and a "growth-mindset." The author got some information from a book entitled *Mindset: The New Psychology of Success* by Carol Dweck, published by Ballantine Books (2008; New York, NY).

For those who don't know, I've been jumping out of perfectly good aircraft for more than 50 years. I've slowed down quite a

bit, but I still make a few jumps every year (not having missed a year) since 1962. Have I ever seen changes in the world of sport parachuting over the years. When I started jumping my parachute equipment weighed more than 50 pounds. That was almost half my weight, at that time. Now the equipment is less than half that weight. If I had kept a fixed-mindset and not been willing to keep an open growth-mindset, I would still be jumping in the dark ages.

Many people keep celebrating their 39th birthday each year and have never learned to think beyond a typewriter let alone how to use a computer. Most of us have adapted and have a growth-mindset. We found the time to learn how to use a computer and our cellphones. A while back I had a young brother and sister in my shop, and they pointed to my typewriter and asked me what it was. They'd grown up only knowing a computer keyboard. I know there are kids today that if you ask them what time it is when the big hand is on 12 and the little hand is on the 3, they will look at you kind of funny.

Fixed-mindset people believe their qualities are carved in stone when they are born. They're the best they can be, and believe their skills, talents, and intelligence are something they cannot alter or change. They believe they are destined to be who they are and that's

Paying attention to the smallest of details could be the one factor in the equation that saves your life

that. They will avoid that which takes much effort and hard work. A challenge is scary and is often avoided because they fear failure. Their thinking is if they have to work hard at a task, then it means they lack the ability to

do it in the first place.

Our minds are wonderful things. Don't waste it with a fixed-mindset. Challenge yourself to learn a new skill, and don't be afraid to ask for help. Asking for help is not a sign of

weakness. Over the years I've had numerous pilots tell me that they only wear a parachute because it's required at a contest, and they'll never be able to get out of their aircraft in an emergency anyway, so why try. That's a fixed-mindset.

What is a growth-mindset? It's *you*, it's *me*, and it's *all of us* accepting a different perspective on life—*when life requires it*. A growth-mindset challenges us to believe our basic qualities can change and

Enjoy Unusual Attitudes?

Become a member of the world's largest aerobatic organization: **EAA's International Aerobatic Club**.

We promote the safety and enjoyment of aerobatic flight. Join us today and begin enjoying exclusive member benefits, including a subscription to *Sport Aerobatics* magazine.

**Call 800.564.6322 or
visit www.IAC.org**



improve through effort and, yes, sometimes through hard work. Our potentials are unknown and undetermined. Our intelligence and skills can change with hard work and help. We may not become the next Sean D. Tucker, but we can challenge ourselves to be the best we can be.

Whether it's in the cockpit or on the ground, someone who has this positive attitude about flying and life believes he or she has the ability to go from a novice to a pro. Growth-mindset people feel great about themselves when they work at something and finally figure it out. They take pride in what they do no matter how it turns out. Setbacks can motivate them. Success is measured in progress. They take calculated risks and confront challenges. They enjoy learning and welcome feedback, so they can become better. The upside and the downside of this is that you have to constantly maintain what you've learned. Becoming proficient at a maneuver doesn't mean you don't have to practice. Practice keeps you proficient. I preach this over and over in my seminars. Practice, practice, practice.

Take the first step and challenge yourself to have a "growth-mindset." Have someone teach you that one maneuver that seems impossible for you to learn. Enter your first contest with an open growth-mindset. E-mail or call me with your questions (www.SilverParachutes.com). Remember to use lots of bubble wrap and tape. Have fun, fly safely, and if you're in my neck of the woods (Columbia Airport, O22), stop by and say hello.

IAC

Kirby Chambliss performing at AirVenture 2012.



TWO Night Air Shows -
Wednesday and Saturday
Presented by Rockwell Collins

See Yves 'Jetman' Rossy fly
Sponsored by Breitling

Preview "Disney's Planes"
at the Fly-In Theatre
Presented by Ford Motor Company

Watch Team AeroDynamix
The world's largest air show team

Opening Night Concert with Chicago
Presented by Ford Motor Company

All in one week

ONLY IN **OSHKOSH**

July 29-August 4 | AirVenture.org/tickets

2013
AIRVENTURE
OSHKOSH
EAA

Advance ticketing made possible by
JETPILOT

Copyright © 2013 EAA

CONTEST CALENDAR

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

Michigan Aerobic Open

Saturday, July 6 – Sunday, July 7, 2013
Practice/Registration: Thursday, July 4 – Friday, July 5
Power: Primary through Unlimited
Location: Jackson County Airport-Reynolds Field (JXN): Jackson, MI
Region: Mid-America
Contest Director: Brian Roodvoets
Contact Information: Alternate Phone: 8106670642
E-Mail: redfoot@usol.com
Website: iac88.eaachapter.org

Green Mountain Aerobic Contest

Friday, July 12 – Sunday, July 14, 2013
Practice/Registration: Thursday, July 11 – Friday, July 12
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Hertness State Airport (VSF), Springfield, VT
Region: Northeast
Contest Director: Bill Gordon
Contact Information: Primary Phone: 803 585 0366
E-Mail: wsgordon@earthlink.net
Website: <http://iac35.aerobaticsweb.org>

Salem Regional Aerobic Contest

Saturday, July 13 – Sunday, July 14, 2013
Practice/Registration: Friday, July 12
Power: Primary through Unlimited
Location: Salem-Leckrone Airport (S10), Salem, IL
Region: Mid-America
Contest Director: Bruce Ballew
Contact Information: Primary Phone: 314.369.3723
E-Mail: bruceballew@earthlink.net

High Planes HotPoxia Fest

Saturday, July 13 – Sunday, July 14, 2013
Practice/Registration: Friday, July 12
Power: Primary through Unlimited
Location: Sterling Municipal Airport (STK), Sterling, CO
Region: South Central
Contest Director: Dagmar Kress
Contact Information: Primary Phone: 303-887-4473
E-Mail: DagmarAerobatics@me.com
Website: www.iac12.org

Kathy Jaffe Challenge

Friday, August 9 – Sunday, August 11, 2013
Practice/Registration: Thursday, August 8 – Friday, August 9
Power: Primary through Unlimited
Location: South Jersey Regional Airport (VAY), Mt. Laurel, NJ
Region: Northeast
Contest Director: Mark Mattioli
Contact Information: Primary Phone: 609-634-0327
E-Mail: ce2n6gk@gmail.com
Website: www.iac52.org

Hoosier Hoedown

Saturday, August 10 – Sunday, August 11, 2013
Practice/Registration: Friday, August 9
Power: Primary through Unlimited
Location: Kokomo Municipal Airport (OKK), Kokomo, Indiana
Region: Mid-America
Contest Director: Mike Wild
Contact Information: Primary Phone: 765-860-3231
E-Mail: mike.wild@hotmail.com
Website: www.hoosierhammerheads.com

Doug Yost Challenge

Saturday, August 17 – Sunday, August 18, 2013
Practice/Registration: Thursday, August 15 – Friday, August 16
Power: Primary through Unlimited
Location: Spencer Municipal Airport (SPW), Spencer, IA
Region: Mid-America
Contest Director: Aaron McCartan
Contact Information: Primary Phone: 515-570-3537
E-Mail: northerplanes@outlook.com
Website: www.iac78.org

Beaver State Aerobic Contest

Friday, August 23 – Saturday, August 24, 2013
Practice/Registration: Thursday, August 22
Rain/Weather: Sunday, August 25
Power: Primary through Unlimited
Location: Eastern Oregon Regional Airport (PDT), Pendleton, OR
Region: Northwest
Contest Director: John Smutny
Contact Information: Primary Phone: 206.399.7097
E-Mail: johnsmutny@gmail.com
Website: <http://www.iac77.eaachapter.org/>

2013 Upper Canada Open

Saturday, August 24 – Sunday, August 25, 2013
Practice/Registration: Friday, August 23
Power: Primary through Unlimited
Location: Chatham Kent Municipal Airport (CNZ3), Chatham ON, Canada
Region: Mid-America
Website: <http://aerobaticscanadachapter3.blogspot.com>

Oshkosh 2013

Saturday, August 24 – Sunday, August 25, 2013
Power: Primary through Unlimited
Location: Wittman Regional Airport (OSH), Oshkosh, WI
Region: Mid-America
Contest Director: Audra Hoy
Contact Information: Primary Phone: 920-203-9000
E-Mail: audra_hoy@yahoo.com

Happiness is Delano

Saturday, August 31 – Sunday, September 1, 2013
Practice/Registration: Friday, August 30
Power: Primary through Unlimited
Location: Delano Municipal Airport (DLO), Delano, CA
Region: Southwest
Contest Director: Stephen De La Cruz
Contact Information: Alternate Phone: 760-963-6426
E-Mail: sec@iacchapter26.org
Website: www.iacchapter26.org

Hammer Fest

Saturday, August 31 – Sunday, September 1, 2013
Practice/Registration: Friday, August 30
Rain/Weather: Monday, September 2
Power: Primary through Unlimited
Location: Llano Municipal Airport (AQ0), Llano, Texas
Region: South Central
Contest Director: Mike Carver
Contact Information: Primary Phone: 360-888-7604
E-Mail: mngcarver@comcast.net
Website: iac107.org

Ace's High Aerobatic Contest

Saturday, September 7 – Sunday, September 8, 2013
Practice/Registration: Friday, September 6
Power: Primary through Unlimited
Location: Newton City Airport (EWK), Newton, Kansas
Region: South Central
Contest Director: Ross Schoneboom
Contact Information: Primary Phone: 316-648-5057
E-Mail: schoneboomr@prodigy.net
Website: www.iac119.webs.com/

East Coast Aerobatic Contest

Saturday, September 7 – Sunday, September 8, 2013
Practice/Registration: Friday, September 6
Power: Primary through Unlimited
Location: Warrenton-Fauquier Airport (HWY), Midland, VA
Region: Northeast
Contest Director: Scott Francis
Contact Information: Primary Phone: 703-618-4132
E-Mail: s.francis@ieee.org

NorAm Team Championship

Friday, September 13 – Saturday, September 14, 2013
Practice/Registration: Thursday, September 12
Rain/Weather: Sunday, September 15
Power: Primary through Unlimited
Location: Ephrata Municipal Airport (EPH), Ephrata, WA
Region: Northwest
Contest Director: Jerry Riedinger and Emma Stewart
Contact Information: Primary Phone: 425-985-9469
E-Mail: JRiedinger@perkinscoie.com
Website: <http://www.iac67.org/>

Rocky Mountain "Oyster" Invitational

Saturday, September 14 – Sunday, September 15, 2013
Practice/Registration: Friday, September 13
Gliders Categories: Sportsman Intermediate
Power: Primary through Unlimited
Location: Lamar Municipal Airport (KLAA), Lamar, Colorado
Region: South Central
Contest Director: Jamie S. treat
Contact Information: Primary Phone: 303-304-7937
E-Mail: JamieTreat@q.com
Website: <http://www.iac5.org>

2013 US National Aerobatic Championship

Sunday, September 22 – Friday, September 27, 2013
Practice/Registration: Saturday, September 21
Rain/Weather: Saturday, September 28
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: North Texas Regional Airport (KGYI), Sherman, TX
Region: Mid-America
Contest Director: John Smutny
Contact Information: Primary Phone: 206-399-7097
E-Mail: usnationalscd@gmail.com
Website: <http://nationals.iac.org/>

27th FAI World Aerobatic Championships

Wednesday, October 9 – Sunday, October 20, 2013
Practice/Registration: Tuesday, October 1 – Tuesday, October 8
Power Categories: Unlimited
Location: North Texas Regional (GYI), Sherman, TX
Region: South Central
Contest Director: Chris Rudd
Contact Information: Primary Phone: 850-766-3756
E-Mail: waccd2013@gmail.com
Website: wac2013.com

Sebring Aerobatic Championships

Friday, November 1 – Saturday, November 2, 2013
Practice/Registration: Saturday, October 26 – Thursday, October 31
Power: Primary through Unlimited
Location: Sebring regional (SEF), Sebring, FL.
Region: Southeast
Contest Director: mike mays
Contact Information: Primary Phone: 561-313-8503
E-Mail: soaerobatics@aol.com
Website: www.iac23.com

Tequila Cup

Friday, November 8 – Saturday, November 9, 2013
Practice/Registration: Thursday, November 7
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Marana Northwest Regional Airport (AVQ), Marana, AZ
Region: Southwest
Contest Director: Jim Ward
Contact Information: Primary Phone: 603-860-4456
E-Mail: cd@tequilacup.org
Website: www.tequilacup.org

IAC Yellow Page Directory

Executive Office Manager Trish Deimer-Steineke

Sport Aerobatics Editorial Office Editor . . Reggie Paultk

Board of Directors

President	Doug Sowder
Vice President	Open
Secretary	Jim Ward
Treasurer	Bob Hart
Northwest Reg Dir	Klein Gilhousen
Director	Darren Pleasance
Mid America Reg Dir	Bruce Ballew
Northeast Reg Dir	Doug Lovell
Southeast Reg Dir	Tom Adams
International Dir	Debby Rihn-Harvey
Southwest Reg Dir	Vicky Benzing
South Central Reg Dir	Lynn Bowes
Director	Norm DeWitt, UAUSA
NAA Representative	Jonathan Gaffney
EAA Representative	Louis Andrew Jr.

Presidents Emeritus

Doug Bartlett
Carl Bury
Rob Dorsey
Linda Hamer
Mike Heuer
Robert Heuer
Verne Jobst
Doug McConnell
Gerry Molidor
Steve Morris
Dr. Richard Rihn
Vicki Cruse

Program Chairman and Committees

Achievement Awards	Lorrie Penner, Chair
Aerobic Instruction	Rich Stowell, Chair
Awards	Lorrie Penner, Chair
CIVA Relations	Mike Heuer, Delegate
	Debby Rihn-Harvey, Alt Delegate
	Doug Sowder
	Norm DeWitt
	Greg Dungan
	Brian Howard
	Trish Deimer
Collegiate Program	Lynn Bowes, Chair
	Charlie Rodriguez
	Pat Anderson
	E. Allen Englehardt
	Michael Lents

Technical Committee	Tom Myers, Chair
	Bob Buckley
	Peter Jensen
	Randy Owens
	Doug Lovell
	DJ Molny
	Reggie Paultk



Contest Sanctioning	Doug Sowder, Chair Bob Hart Trish Deimer Jim Ward Vice Prez
Executive Committee	Doug Sowder, Chair Vice Prez Jim Ward Bob Hart
Finance Committee	Bob Hart, Chair Doug Sowder Vice Prez Trish Deimer
Glider Aerobatics	Klein Gilhouse, Chair
Gov't Relations Reps	Dennis Thompson, Chair, Eastern Regions Wayne Roberts, Vice Chair, At Large Bill Finagin, National Regions Phillip Gragg, Central Regions Darren Pleasance, Western Regions
Hall of Fame Committee	David Martin, Chair Bob Davis Linda Hamer Verne Jobst Gene Soucy Don Taylor Position Available
Club Historian	Mike Heuer
ICAS Liason	Bob Davis
Judges	Greg Dungan, Chair, Certification & Schools
Legal Counsel	Louis Andrew Jr.
Membership	Doug McConnell, Chair Vicky Benzing
Nominations	Lynne Stoltenberg
Online Judge Education Committee	Jim Ward
Rules Committee	Brian Howard, Chair Greg Dungan Klein Gilhouse Martha Martin Doug Sowder Mike Heuer, CIVA Delegate
Safety Committee	Steve Johnson, Chair Scott Poehlmann, Chair, Human Factors Doug Sowder, Technical Safety
Chapter Relations	Brenda Anderson, EAA Chapter Office
Insurance	EAA Aircraft Insurance Plan

IAC Directory

Contact Information

Name	Address
Tom Adams	P.O. Box 915, 6024 Earhart Rd; Springfield, TN 37172
Brenda Anderson	Chap. Office, P.O. Box 3086; Oshkosh, WI 54903-3086
Pat Anderson	105 Carnival Drive; Daytona Beach, FL 32114
Louis Andrew, Jr.	55 South Main St; Fond du Lac, WI 54935
Bruce Ballew	1636 Wildhorse Pkwy Dr Chesterfield, MO 63005
Doug Bartlett	1069 Bald Eagle Dr Unit 602, Marco Island, FL 34145
Vicky Benzing	21107 Michaels Dr Saratoga, CA 95070-5319
Lynn Bowes	200 Rock Creek Rd, Raymond, NE 68428
Bob Buckley	6090 Fescue Drive, Colorado Springs, CO 80923
Carl Bury	4 Sleepy Terrapin Lane; Savannah GA 31411-1544
Bob Davis	N1561 Linn Road; Lake Geneva, WI 53147
Trish Deimer-Steineke	PO Box 3086 Oshkosh WI 54903-3086
Norm DeWitt	148 Magnolia Drive; Atherton, CA 94027
Rob Dorsey	1548 Copper Creek Court; Florence, KY 41042-9194
Greg Dungan	46152 Levitan Way; Great Mills, MD 20634
E. Allan Englehardt	910 Burris Avenue; Lake Bluff, IL 60044-1516
Bill Finagin	6 Romar Drive; Annapolis, MD 21403
Jonathan Gaffney	NAA Hangar 7 Ste 202, Washington, DC 20001
Klein Gilhousen	599 High Tower Road, Bozeman, MT 59718
Phillip Gragg	1929 E Spring Meadow Ln Boise ID 83706
Linda Hamer	20483 Meridian Road; Peru IL 61354-9801
Bob Hart	3019 N Ringwood Rd, McHenry, IL 60050-1324
Mike Heuer	4547 West Woodlawn Circle, Collierville, TN 38017
Brian Howard	721 West Silver Eagle Court; Tucson AZ 85755
Insurance	POB 291388 Kerrville, TX 78028
Peter Jensen	310 Ellmar Oaks Loop, San Jose, CA 95136
Verne Jobst	2921 Sterling Drive; McHenry IL 60050-2662
Steve Johnson	1128 Silverleaf Ter Nashville, TN 37221-3363
Michael Lents	5173 W Maple Ave Grand Forks, ND 58203
Doug Lovell	528 Main St Apt B Beacon NY 12508-2837
David Martin	3279 La Villa Rd, Graford, TX 76449-4559
Martha Martin	3279 La Villa Road; Graford, TX 76449
Doug McConnell	4203 E. Lake Shore Drive, Wonder Lake, IL 60097
EAA-IAC Membership	P.O. Box 3086; Oshkosh, WI 54903-3086
Gerry Molidor	5912 Whiting Drive; McHenry, IL 60050
DJ Molny	9290 Bauer Court, Lone Tree CO 80124
Steve Morris	24650 High Timber Lane; Agate, CO 80101
Tom Myers	443 Leland Avenue; Palo Alto, CA 94306-1131
Randy Owens	6585 E Fordham Cr., Anaheim Hills, CA 92807
Reggie Paulk	PO Box 520, Tabernash, CO 80478
Lorrie Penner	7628 Plainfield Road, Cincinnati, OH 45236
Darren Pleasance	61402 Davis Lake Loop Bend, OR 97702
Scott Poehlmann	825 Wingfoote Road, El Paso, TX 79912
Dr. Richard Rihn	1101 Scots Lane, Walnut Creek, CA 94596
Debby Rihn-Harvey	10446 Carlow Lane; La Porte, TX 77571-4214
Wayne Roberts	547 Northwoods Dr, Grenada, MS 38901
Charlie Rodriguez	309 E. Industrial Park Rd.; Murphysboro, IL 62966
Gene Soucy	2951 Marina Bay Dr Suite 130-340 League City TX 77573
Doug Sowder	118 East High Dr, Spokane, WA 99203
Lynne Stoltenberg	656 Windy Acres Rd Brenham TX 77833
Rich Stowell	PO Box 1026 McCall ID 83638
Don Taylor	6109 Copper Rose NE Albuquerque NM 87111
Dennis Thompson	6908 Railroad Blvd Mays Landing, NJ 08330
Jim Ward	2033 2nd Ave Apt 1702 Seattle WA 98121

Telephone	Fax	Cell	Email
615/384-1018		615/584-7146	fly4funta@gmail.com
920/426-6867			banderson@eaa.org
386/226-6917		386/453-4900	andersop@erau.edu
920/921-6000	920/921-0226		landrew@andrewlawoffice.com
636/778-0020			bruceballew@earthlink.net
		847/875-3339	Doug.bartlett79@gmail.com
		408/306-9128	vicky.benzing@gmail.com
402/785-1060		402/770-5966	lynn.bowes@hotmail.com
		719/277-7017	BwanaBawb@Comcast.net
912/598-8801	912/598-8802		csbury@comcast.net
262/248-6364			bdavis74@charter.net
920/426-6574	920/426-6579	920/379-0287	tdeimer@eaa.org
650/321-8499	650/281-3343		norm.dewitt@gmail.com
859/657-6340	859/657-6341		robd@dorseyaero.com
301/994-0083		240/925-0980	greg.dungan@verizon.net
847/234-2325	847/234-2325		eallannglehardt@compuserve.com
410/263-2740	410/263-4693	410/353-2622	wbfinagin@cs.com
703/416-4888		406/579-1942	jgaffney@naa.aero
406/586-2517			kleing@qualcomm.com
225/456-6847			philiscold@yahoo.com
815/223-8596	815/223-6818		l.hamerrealty@sbcglobal.net
815/363-8967			hrtlndfrm@aol.com
901/850-1301	440/220-9006	901/230-9006	mike@mheuer.com
520/531-9151	520/844-8132	520/360-7655	BK@NewAttAero.com
866/647-4322			
408/281-8654			pmj@sbcglobal.net
815/385-7277		815/861-1300	nx211@att.net
615/662-8516		615/557-2364	gjunkie1@aol.com
701/777-4848		218/779-2725	lents@aero.und.edu
914/456-1594		817/319-5510	doug@wbreeze.com
940/779-3986	940-549-2930		pkakro@earthlink.net
815/653-1044		708/203-6192	doug_mcconnell@comcast.net
800/843-3612	920/426-6761		membership@eaa.org
815/344-3239		815/861-9877	GMolidor@aol.com
303/799-0149			djmolny@yahoo.com
303/621-2835			N94rv@aol.com
650/328-2141		650/799-6854	tom.myers@stanfordalumni.org
714/250-1291		303/552-7963	rdowens@sbcglobal.net
		513/284-5076	Reggie.paulk@gmail.com
513/791-7331		650/245-2405	penn.lorrie@gmail.com
915/307-6450	915/545-6710	512/751-7937	darren.pleasance@gmail.com
925/938-4236	925/938-4036		Scott-p@texas.net
281/470-8456			Rihnairco@aol.com
662/226-4919			hurricane@sbcglobal.net
618/453-9215	618/453-4850	618/534-1105	wroberts@lakecityaero.com
281/513-6590			crod@siu.edu
509/747-5748			gene@genesoucy.com
979/836-2610			dougsowder@gmail.com
805/525-2037			Ijstoltenberg@gmail.com
505/858-0005			rich@richstowell.com
973/219-5071	908/638-8463	973/219-5071	dtedge2002@yahoo.com
206/448-6175		603/860-4456	james.roger.ward@gmail.com



In the loop for life.



Introducing the IAC Lifetime Membership.

It's the newest, highest level of IAC membership that delivers exclusive credentials and a lifetime of uninterrupted benefits. When you become an IAC Lifetime Member you are demonstrating your lifelong support and commitment to promoting the safety and enjoyment of sport aerobatics.

Visit IAC.org/lifetime-membership
or call 800-JOIN-EAA

**ROLL
WITH US!**

EAA Lifetime Membership in good standing is required when applying for IAC Lifetime Membership

CLASSIFIEDS

AIRCRAFT

Sukhoi SU-26, 1993, 560 TT, 196 SMOH on 400 hp M14PF, 225 hr on MT-29 prop, Cleveland wheels and brakes, Flush mounted Garmin 496, Excellent condition \$180,000 561 339-2001

The Winner's Propeller!

Fly the Champions' Choice!

Like Patty Wagstaff
as shown here
with her
Extra 300S!!



Super Decathlon



Pitts Model 12

Available for almost every aerobatic aircraft, for custom built airplanes like Lancair, Velocity, Glasair or RV and for more than 100 certified aircraft types.

Order your custom designed propeller today!

MT-Propeller USA, Inc., Florida

Phone: (386) 736-7762

Fax: (386) 736-7696

e-mail: info@mt-propellerusa.com

MT-Propeller

Headquarters Germany

Phone: +49-9429-94090

Fax: +49-9429-8432

e-mail: sales@mt-propeller.com

www.mt-propeller.com



FLY MART



DENT-AIR, LTD.

FACTORY DEALER FOR PITTS SPECIAL
Located At Lee Airport
Annapolis, Maryland

Aerobatics & Spin Training

Pitts Sighting Devices

BILL FINAGIN

Hangar 410-956-0047 Home 410-263-2740
Fax 410-263-4693 E-mail wbfinaigin@cs.com

Aerobatic-Spin-Tail Wheel

Fly Indiantown, FL

Five Star Venue

*Location - S.E. Florida

*Master CFI - Aerobatic

*Proven course syllabus

*Super Decathlon

*Authentic country inn

Schedule today:

Jim Alsip 772-485-6761

www.dylanaviation.com

AVIATORS UNLIMITED

Basic to Unlimited Training
Aerobic / Spin /
Pitts / Acro AC Transition
Pitts S2A / Decathlon
Acro AC Maintenance

Johnny White

276-614-0412

www.aviatorsunlimited.us

The Vertical Works

- Aerobatics
- Spin Training
- Formation
- Pitts Transition

theverticalworks.com
Scottsdale, AZ

732.865.1610

★ AcroBelt ★

5-Point Ratchet Seatbelt System
Customized To Fit Your Aircraft

Details at:

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 Kits

Silver Parachute Sales & Service

Phone: 209-532-7070

Email: Allen@SilverParachutes.com

**THIS COULD
BE YOUR
AD!**



Contact Sue Anderson
at 920-426-6127 or
sanderson@eaa.org

ADVERTISING INDEX

ADVERTISER

ADVERTISER	PAGE	WEBSITE	PHONE
Aviators Unlimited	31	www.AviatorsUnlimited.us	276-614-0412
Dent-Air, Ltd.	31	WBFinaigin@cs.com	410-263-2740
Dylan Aviation	31	www.DylanAviation.com	772-485-6761
EAA AirVenture	23	www.airventure.org	866-647-4322
EAA Insurance	BC	www.eaalowerrates.com	800-392-3673
Ford Motor Company	IFC	www.Ford.com	281-471-1675
Harvey & Rihn Aviation Inc.	9	www.HarveyRihn.com	800-843-3612
IAC Merchandise	9 & IBC	www.shopeaa.com/iac.aspx	800-564-6322
IAC Lifetime Membership	30	www.iac.org/lifetime-membership	386-736-7762
MT-Propeller	31	www.mt-propeller.com	360-435-7220
Para-Phernalia	11	www.SoftieParachutes.com	602-971-3991
Plus 5 Aviation, LLC	15	www.Airbum.com	510-785-7070
Silver Parachute	31	www.SilverParachutes.com	732-865-1610
Vertical Works, The	31	www.theverticalworks.com	

MEET A MEMBER

BY GARY DEBAUN, IAC #4145

Chelsea Stein Engberg



GD: Chelsea, tell us a little about how you got started in competition aerobatics?

CE: I fell in love with the idea of aerobatics through air shows first, and when I started my training at Tutima Academy I discovered competition aerobatics and was hooked!

GD: What and where was your first contest and how did you do?

CE: My first contest was the Paso Robles Contest (Chapter 38) in 2007, and I ended up in the middle of the bottom third in Sportsman if I recall correctly. I hadn't even finished my 10-hour training course yet, but Ken Erickson was my safety pilot in the Pitts, and I loved the entire experience!

GD: What aircraft are you currently flying in competition and in what category?

CE: Extra 300L in Advanced (my first year in the category).

GD: Do you have any aerobatic goals?

CE: Yes, I'd like to make the U.S. Advanced Team a few times before hopefully moving up to Unlimited—I think I'm on the 10-12 year plan and look forward to the entire adventure.

GD: What's your opinion on flight suits and helmets in competition aerobatics?

CE: I am a huge proponent of flight suits; I don't like the idea of flying in synthetic materials and things that can melt. Helmets, on the other hand, are a bit more of a debate as an argument can be made both for and against their use. In many situations they can be beneficial, but they can also lead to injuries under normal g as well as during an impact, so each person has to weigh the pros and cons. I personally fly with a flight suit and helmet as well as Nomex racing shoes.

GD: What's your favorite figure to fly?

CE: This is an ever-changing answer for me. Currently I'm really enjoying the final figure in the 2013 Advanced Known—1/2 loop up with a 3x2 followed by 1-1/2 inside

snap opposite. For some reason this figure just makes me smile every time I fly it.

GD: What's the hardest figure to judge?

CE: N-figures in Unlimited are pretty tough to judge because they almost always have a ton of both same direction and opposite direction rolls and snaps (both inside and outside) scattered all over them. There is just so much going on it takes a lot of focus to judge them.

GD: Do you have any preflight routines like listening to music, yoga, or stretching?

CE: Before every flight (practice or contest flight) I spend some time walking through, visualizing the flight and listening to music (my current song to get pumped up with is "Promises"—the Skrillex and Nero Remix). Then I try to spend a little time clearing my mind and getting in the right head space about 15 minutes before I get in the airplane.

GD: If you could change anything in the IAC, what would it be?

CE: I'd love to see the fair play system (FPS) used at all IAC contests (regional and national levels).

GD: Do you have other interests outside of aerobatics?

CE: What? There's life outside of aerobatics?! Actually yes, I do. I love animals, hiking, traveling, and going on adventures (road trips, outdoor explorations, etc.). Basically I love taking every opportunity/adventure that I can—you only live once, right?!

IAC 433552

Chapter Affiliation: 26

Occupation: New Business

Developer/Aerobatic Instructor

E-mail: Chelsea@GoInverted.com

Age: 32



IAC Caps

\$14.99*

Navy Brushed Twill

-7266929800062

Solid brushed twill constructed cap.
100% cotton with velcro back closure.
IAC embroidered in red with white outline.



\$14.99*

Red Brushed Twill

-7266929800020

Solid brushed twill constructed cap.
100% cotton. Velcro back closure and has the IAC logo embroidered in red with white outline.



\$15.99*

Khaki Mesh

-7266930100000

Mesh constructed cap made with 100% polyester, contrasting bill, and adjustable velcro back. IAC in red embroidery with white outline



\$15.99*

Royal Blue Microfiber

-7266929700000

100% polyester. Cap has contrast black insets, adjustable velcro closure, and the IAC logo embroidered in red with white outline.



Key Rings

Metal and colored plastic key rings are 3'w by 1 1/4" h by 1/4" d have the IAC logo etched in the metal center.

IAC Pink Key Ring - 7266912600011

IAC Red Key Ring - 7266912600020

IAC Blue Key Ring - 7266912600061

IAC Black Key Ring - 7266912600093



\$7.99*

Order by phone: 800-843-3612

www.shopeaa.com/iac.aspx

Outside the U.S.. and Canada 920-426-5912

*Shipping and handling NOT included. Major credit cards accepted. WI residents add 5% sales tax.



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.