SPORT Aerobatics
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OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB

THE IAC'S NEW BRAND
BLUE SKY AND A FRESH START

SPORT Aerobatics
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SPORT Aerobatics
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REGGIE PAULK
COMMENTARY / EDITOR'S LOG

A 2014 thanks

HAPPY NEW YEAR! I can think of no better way to ease into 2015 than with a thoughtful Letter to the Editor, so I give you Mark Meredith's take on the December issue.

—Reggie

Reggie,

The December issue is my favorite yet. I read the articles on Nationals, contests, etc., but over the years the ones I've saved and *studied* are the "how to" stories by people with lower performing aircraft flying at Sportsman level. The entire Dec issue was focused that way. The stories by Doug Jenkins and Patric Coggins are especially useful and well written, and I was fascinated by Rick Volker's article on flying the Harvard. (From page 12 I even picked up a clue about why my rolls always speed up as they progress, especially on the last third – it's the rudder, dummy!)

I've been reading ever since purchasing an old and tired 1951 Super Chipmunk in 2009, with plans to rebuild and fly it in contests. I finally finished the project after 5 years and 5,000 hrs last summer, just in time to fly it to OSH (it received an award for vintage custom classic!). Spent the rest of the summer/fall learning to fly some basic aerobatics in it, in hopes of competing in Primary at the Warrenton, VA contest. I wasn't able to do so because of a governor issue. It was nice to have a mechanical out because I really wasn't ready anyway.

Bill Finagin is my next door hangar neighbor at Lee Annapolis, MD and has been a steady mentor. My Chippy is a single seat, so I take instructional rides in his Pitts, then climb back in mine and try to apply his teaching. Bill has also given me a little ground coaching in the box at Cambridge, MD. While his Pitts is well tested and just about bullet proof, I'm just learning to trust mine (after all, I rebuilt every system!), and trust my ability to fly safely unsupervised. I'm also using Bill Thomas' book, *Fly for Fun*. So with that background, Patric Coggin's article about easing into single seat aerobatics with an unfamiliar airplane is especially helpful! I plan to immediately build a Chippy syllabus based on his experience, and will work up to the Sportsman sequence slowly and carefully. Chippy is open cockpit so I'll grab all the warmish days this winter (aided by a military winter flight suit), then really go at it again in the spring. Hopefully I'll be ready for a few eastern contests in 2015. The flying season will be a success if Chippy and I can actually stay in the box! Thanks again for the helpful Sportsman articles, in December and in past years.

Mark Meredith *IAC*

Please submit news, comments, articles, or suggestions to: *reggie.paulk@gmail.com*

MIKE HEUER
COMMENTARY / IAC PRESIDENT, IAC 4

Please send your comments, questions, or suggestions to: *mike@mheuer.com*

The new IAC

This issue of *Sport Aerobatics* marks the beginning of a new year and another contest season for the IAC. 2015 will be IAC's 46th season of organizing and sanctioning aerobatic competitions in the United States. We have a lot of experience under our belts, and our traditions and emphasis on safety, education, and free exchange of information have paid dividends over the years. I have an enormous respect and admiration for all of the people who have made this possible throughout the years and have worked hard to uphold those standards. It is an effort that requires constant attention, and it all started with a handful of pilots who sat around a dining room table in late 1969 and early 1970, establishing those rules, guidelines, and structures that have survived to this day. It's what people today call our "culture."

With those traditions and history in mind, however, we cannot freeze everything in place and must adapt to the world we will live in, which is infinitely more complicated than it was in the late 1960s when the aerobatic community was small and all were well known to each other. Today, we have a more complex economy and regulatory environment, increasing costs, and more demands on everyone's leisure time. In recent years, this has resulted in a declining membership as well as a drop in contest participation. Despite that news, however, we have many positives on our side and good things to report.

In the last membership report I received, we now see growth. It's nothing huge, but it is positive. Our membership recruiting and retention efforts are starting to yield some results. I am also encouraged by the new programs and initiatives that have recently been discussed and reviewed by the board of directors and will be implemented in 2015 by our membership and marketing volunteers in cooperation with the EAA staff. I would very much like to see us break the 4,000 member mark this year.

We do this by not only recruiting new members through marketing and promotion efforts like a reach-out we made to aerobatic aircraft owners who brought their aircraft to EAA AirVenture last year, but also by improving the services we offer members. IAC's officers and directors must constantly look at what we offer you, the member, so that your dues bring you value and relevancy in your aviation lives.

Along those lines, the board met in Oshkosh, Wisconsin, on the 12th and 13th of November to discuss a wide range of issues that impact our members. Since IAC has been in business now for more than four decades, most of the actions we take are more on the order of fine-tuning the engine—not making drastic changes. What you will see in the months and years ahead is a better magazine, an improved *In the Loop* e-newsletter, and more support for our contests and chapters. This coming winter, we will update the IAC Official Contest Rules, which is downloadable from the IAC website for members; revise the various contest documents and guides we make available on the website; and administer judges schools to bring more judges into this key group of volunteers who make our contests possible. Above all, we will improve communications with our members.

The IAC website (*www.IAC.org*) is a place you should visit often. There are hundreds of pages of information there, and news articles are being posted all the time. It will never get stale. In the past few weeks, we have posted rules proposals, the new Known sequences for 2015, information on the Achievement Awards program, and the Regional series. This information is contributed by various volunteers and committee chairs whose work is vital to the services we provide. I would also encourage you to subscribe to our tweets. We are *@IACHQ* on Twitter. Sign up today. It is fast and effective. The IAC leadership will do everything possible to bring you as much information on the aerobatic world as we can as a part of our mission of improving services to you.

I am also pleased to announce what I call "The New IAC." Thanks to the work of Margo Chase, an

continued on page 23

ASK MIKE
Call or write at any time. My home number is (901) 850-1301. E-mail *mike@mheuer.com*

WE HAVE A NEW LOOK AND A NEW LOGO!

2015 marks an exciting moment in the growth of the IAC. We are unveiling a new, re-energized logo and brand system, representing the best of the history we've made and the powerful future we will create together.

Our motivation for this change is simple. We want our brand to reflect our organization and its ethos: the IAC is the largest aerobatic club in the world. We are pilots with exceptional skills, dedicated to educating and inspiring others. We deserve a brand that makes us proud.

Founded in 1975, the IAC has never stood still. We have continued to evolve over the years and our logo has been regularly updated, first in 1987 and again in 1999. 2015 will bring more change. With a new president and a new board, the IAC continues to move onward and upward with new energy to improve what's working and fix what's not.

With all this change going on, we noticed that our branding was looking a bit dated. Not tie-dye and pocket calculator dated, but not reflective of our goals and aspirations or our kick-ass flying skills. So, it's time once again to change our look on the outside to reflect the progress we're making on the inside. A new logo is the next step in our continuing journey to improve the IAC.

MAKING OUR MARK SINCE 1975

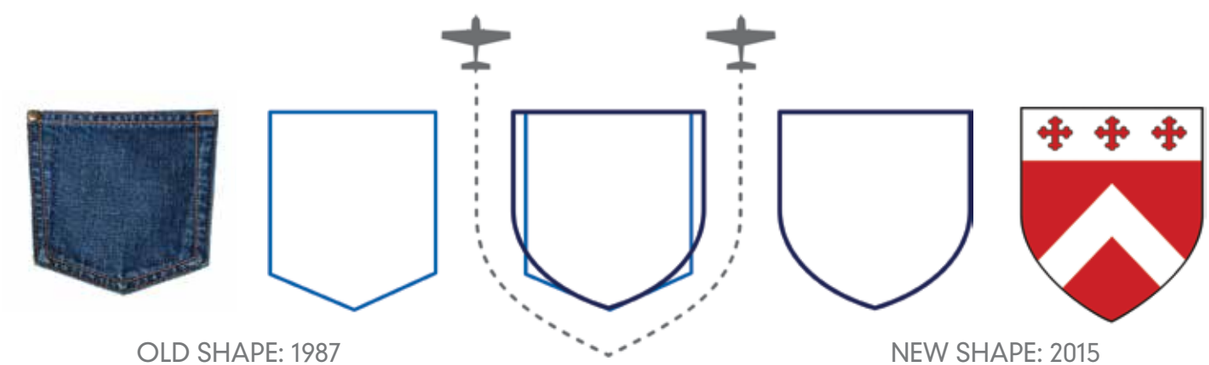
1970

1987

1999

2015

The IAC's first logo was a classic shield. The shield-shape is a foundational element that has been retained through all of the updates. Our new logo trades in the dated, square, 80s-style shield for a more classic, heraldic form. The letterforms have been modernized and simplified so that the monogram and font are related. And above all, the airplane icon has been enlarged to bring our core commitment to aerobatics to the forefront. The new logo retains strong equity but updates colors, forms and iconography to honor our heritage and speak to the IAC's unlimited potential for growth and evolution.



OLD SHAPE: 1987

NEW SHAPE: 2015

THE ELEMENTS AND THEIR MEANING:

The shield is a symbol of resilience. No matter what gets thrown at us we are able to stand fast and succeed.

The division of the shield (party per fess) into two horizontal fields signifies rule and authority. The top panel is called a "chief" and contains the dominant blazon or monogram.

The abstract airplane icon in the new monogram represents optimism and the potential for change and discovery. The arc of its flight is a journey into the unknown, overcoming risks and achieving a new level of knowledge.

Red, white and blue are the colors of our flag, representing our national values of loyalty, valor and strength. Our new IAC colors match our country and our national trade dress. Red symbolizes hardiness, valor and eagerness to serve. Blue symbolizes vigilance, strength and loyalty. White symbolizes honesty and purity. Old Glory's colors will never fade.

SHIELD

MONOGRAM

The new monogram gives the airplane a more prominent position. The letter-forms are updated, strengthened and simplified.

THE IAC BRAND FAMILY

Every interaction people have with the IAC is an opportunity to help them understand who we are and why our organization matters. To make the most of these moments, we've created a new IAC brand family that embraces our teams and our national competition, giving the IAC a broader reach and more consistent face. All the logos in the new brand family share the shield, the airplane icon and our patriotic brand colors.

THE TEAM LOGOS

Like Red Bull, Ducati Corse and Ferrari Formula One, our competitive aerobatic teams are an exciting and prestigious demonstration of the IAC's central role in US aerobatics. While the teams functioned independently of the IAC for many years, 2015 marks a new commitment to embrace our flying spirit and support our most talented pilots in national and international competition. Including the new IAC monogram in our new team logos is a visible manifestation of that support.

1982 1999 2015

ONWARD AND UPWARD

The launch of the new logo marks the start of the transition of the brand as a whole. The new logos will be available on our website along with a detailed brand guide that explains the system in detail and defines the rules for use. Over the coming weeks and months we will be moving to this new branding in stages. You will see the refreshed logo and updated branding appear at our events, on our website and on a new collection of apparel.

It's blue sky and a fresh start. Our new brand family will help us make our mark as a sport and a brand. Used consistently, these logos will tie our organization, teams and events together and present a confident and consistent face to the world. The EAA registered trademark is used under license from EAA. Onward and upward. We are excited and proud to be part of this journey.

Gary inspects the empennage and tailwheel assemblies. One elevator was so rusted the airplane needed to be trucked home.

The 2014 Nationals

An inside scoop

ARTICLE AND PHOTOS BY REGGIE PAULK

Keeping Pilots Safe

Gary DeBaun acted as tech inspector at Nationals—a duty he's performed at numerous contests, including Nationals, over the years. As part of the contest ritual, the tech inspection is focused on finding safety issues on the ground, before they can manifest themselves in flight.

Like a preflight inspection, the tech inspection is designed to find safety-of-flight issues. Unlike a preflight inspection, the tech inspection allows for a new set of eyes on the airplane—something that helps find things a pilot might not see due to habits gained with their own aircraft. Come along as Gary performs a tech inspection on Mitch Wilde's Pitts S-2B.

"I'd like to see your airworthiness, your weight-and-balance, parachute repack date, and your membership card," Gary states. After looking them over, he then asks, "How about your pilot certificate and medical? I want to make sure you fly with all the proper documentation. In the airplane, you need your airworthiness, registration, and a copy of your weight-and-balance."

After Mitch hands over the necessary paperwork, Gary says, "Let's take a peek inside."

Mitch opens the canopy, and Gary takes his flashlight and begins inspecting the interior of the aircraft.

"I want to look in the belly of the airplane," he begins. "This is the most important part. If I find any tools, they'll be mine. This airplane looks pretty good. I'm very interested in what's behind the seat. You find stuff back there all the time. I've found screwdrivers, a pair of vise grips clamped to the battery on a guy who was flying Advanced. I've found canopy covers, cameras, and lots of pencils. I've even found some golf tees back there. Any of that stuff can jam the controls, and then you're dead. My primary concern is to look back there because the turtledeck is normally where people don't look. One

Checking for loose exhaust and cowl flaps.

Checking the trailing edge and under the wings.

year, I looked back there, and it was like holy crap. The battery was held down with nothing but tie wraps. This was an airplane flying Advanced. I asked the pilot if anybody said anything about that. He said, 'Nobody ever looks back there.'"

Gary then checks the canopy, examining the locking mechanism. "I want to make sure it's all in good shape in case they need to bail out. I'm looking for rust and other things that could hinder that."

He ensures the mag switch is off and hands the pilot the key to add to his safety while working at the front of the airplane. His exterior inspection begins at the propeller and works clockwise.

"I look at the propeller blades first," he says. "I'm looking for any issues with the leading edges of the blades. I've found small cracks, which can lead to blade failure. I check the spinner for any looseness. A lot of them I find to be a bit loose. Some wobble a bit. There's a bulkhead in there, and a lot of times it needs a bit of tape to prevent wobbling. What I'm looking for in the cowling is the baffling. How is the baffling sealed? A lot of times, it's in the wrong position, and the engine will run hotter if it's not correct. Sometimes, I even find missing baffling in there. It runs around the back and seals the cowling, forcing the air around the cylinders where it exits out the bottom. I get under the cowl and look for any excessive leakage. Most airplanes leak a little bit. I look for cracked exhausts. I look at the way they're hooked up because sometimes, the standoffs are cracked and missing bolts. I like to look at all the linkages of the cowl flaps, and of course the hoses. I look for anything that doesn't look right. These inspections happen at every contest, and you can't believe the stuff you'll find—you wonder if they've even had an annual inspection."

Moving to the landing gear, Gary continues, "You look for sagging cover panels under the bungees. If they're sagging, the bungees might need to be replaced. I'm looking at the brakes for any leakage. I always look at the brake discs to see if they're worn. I look for movement of the wheelpants, because I've found a lot of brackets broken. At the Oshkosh contest, I grabbed hold of a wheelpant, and it came off in my hand because the bracket had broken."

Next on the inspection are the wings and rigging. "I check the cabanes because they have been cracked before," he says. "I shake them a little bit, looking at the welds at the top. We haven't found any on S-2Bs, but we have on the S-1Ts. I like to look at the leading edges, because on the S-2B, this is an aluminum leading edge. If you see screws popping out, it could be an indication you have broken ribs. We took one wing apart, and almost every single false rib was broken and laying on the bottom of the wing.

"I look at the flying wires, and rarely find any issues with those. I look for nicks, which could propagate to a crack. For the attachments, I want to make sure the nuts are up against the fittings. I look for anything in the top and bottom wing to look for a rib that might be cracked. Any buckling at all. I've seen that before. A guy in Iowa had several broken ribs. We told him, you're not flying; you might as well get a truck and take this baby home. He did, and got the wings all rebuilt. A bend in the trailing edge of the wing is common. Sometimes, it's because someone hit their knee on the trailing edge and bent it. This particular one had the canopy fall on it.

"I look at the spades because we did have a spade failure a couple years ago because it was cracked. I like to look at the hinges on the canopy, because sometimes there are cracks in the hinges. I look at the trim tab and make sure it's nice and solid.

"On the tail, you'll sometimes see looseness in the rudder horn, but this airplane looks good. One time, there were no drain holes in the horizontal stabilizer of a Pitts. It had all rusted out to the point where it crinkled up and acted like a trim tab all by itself."

Gary inspects the interior belly of the airplane for any loose objects.

Finalizing the paperwork on this tech inspection.

Jim Bourke and His Xtreme Decathlon

Jim Bourke flew Intermediate in his new Xtreme Decathlon at last year's Nationals. Like many pilots, Jim's fascination with airplanes began at a young age.

"My dad sold airplanes for a living, so I was always around airplanes. We went to a lot of air shows as a kid," he says. "I was always in aviation, but I couldn't afford it when I came of age, so I got into radio-controlled airplanes. Then I started a couple businesses in that area. They worked out really well, and because of that I'm able to fly real airplanes again, which is just a joy. There wasn't any question of what I would do when I knew I could afford an airplane."

Jim bought a Yak-54 because he was flying the same model in RC. "It was a great airplane for me, and

Jim Bourke with his Xtreme Decathlon waiting to fly at Nationals.

Jim Bourke (right) with mom Anita and dad Jim.

I really just enjoyed it. I did a lot of wrenching around on the airplane and moved on from there. Then took a break for a bit."

When Jim decided to get back into aerobatics, the Decathlon beaconed. "Now that I'm back, I thought I'd missed out on flying a Decathlon. A lot of people have come up through the ranks and obtained a lot of skill from flying this humble aerobatic airplane. After really mulling it over, I decided I needed a season of flying the Decathlon to really round me out and give me those skills I missed out on. I've flown 200 hours in it in the last 10 months, and have had five contests in it. I went through Sportsman and Intermediate; I won a couple Intermediate contests. I'm here at the Nationals competing in Intermediate, and the plane's worked out really well for me."

Former Unlimited Champion Debby Rihn-Harvey flew an XA42 in the Intermediate category at the 2014 Nationals. Her participation in the category had a lot of people talking, and Jim weighed in. "Flying against Debby Rihn-Harvey is an amazing opportunity. I heard a couple pilots grumbling about that. They were flying Intermediate and were giving her a hard time. But man, who gets a chance to beat Debby Rihn-Harvey? Why would you be mad about that? Thank you for giving us a shot at you, that's how I feel. I'm about 18 points behind her on the first flight, so I feel real good about that. All I want to do is kick her butt in the Free. It may not happen, but I'm really grateful to have the chance to do that. She might win, but okay. It's good news that she's here. Everyone should compete and be able to compete in whatever category they want, and they shouldn't get any grief for it. She should get to do whatever she wants."

As for the flying qualities of the Xtreme Decathlon over the stock Super Decathlon, Jim compared the two. "The Xtreme Decathlon rolls better and faster. The stick forces are higher, but once you get used to that, you can roll it quite a bit faster than the Super Decathlon. That's, I think, the biggest difference. There are also 30 more horsepower, which makes a big difference for drawing vertical lines. If you're flying

Debby Rihn-Harvey gave the Intermediate pilots a run for their money in the XA42.

in Sportsman, that's probably not the biggest, most important difference. It's nice to have the extra power, though—especially on takeoff when you're trying to get to altitude. They did change some things inside—some carbon-fiber panels to lighten the floor. Minor changes here and there, but the big ones are the engine and ailerons. I will say the roll rate is about 30 percent faster than the old roll rate. I watched videos of Greg Koontz flying his three rolls, and I counted how long it took him in a Super Decathlon, and then I went up and did it in the Xtreme Decathlon. It worked out to be 30-35 percent faster than his rolls. Now I assume that he was about the same airspeed I was; I don't know for sure. I've talked to Greg Koontz about his Xtreme, and he thinks it's great. I've only flown one air show so far—it's new to me. It just presents a lot better than a Super D. You can do a full vertical roll; you can do that in a Super D, maybe, on a good day. But it's really easy to pull off a really nice vertical roll with a hammerhead on top. It looks pretty good, and it's maybe a quarter roll better than a Super D, which is nice for air shows. It can also do a nice tumble. Start a vertical roll and basically mash in rudder and elevator, and it does a pretty nice tumble—maybe does a couple turns before it comes out. You're not supposed to do tail slides, and I haven't done any of those. You can do high angle of attack stalls, though. I've also done some things like going up a 45 degree inverted, then you can push and do a little micro-loop to inverted. That's pretty fun. I don't think it would be very easy to do in a Super D. So there's another feature

The XA42 cockpit.

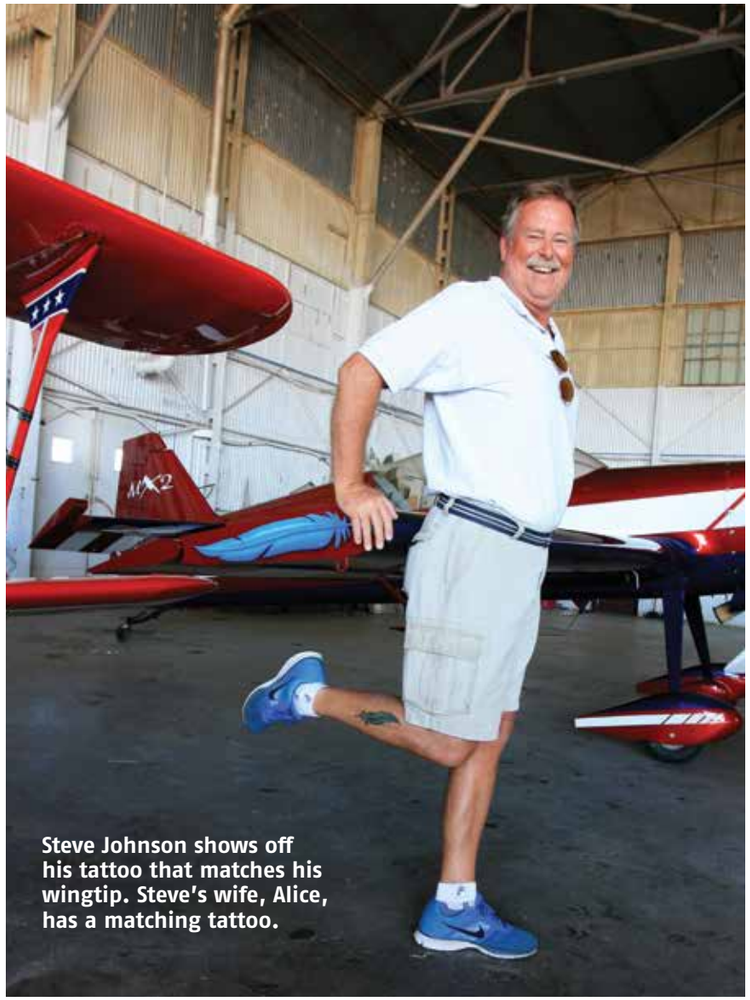
from the extra horsepower."

Now that Jim has challenged Debby in his Decathlon, he's moving on to a higher-performance airplane. "I've now decided to step up to an Extra, so I just bought an Extra," he says. "But I was telling a friend I should have just bought a Pitts and flown a Pitts for a year or two. It seems like that's smarter. You fly a Decathlon, Pitts, then an Extra. But I'm just too anxious now. I want to fly Advanced, and I want a plane that can fly Advanced well. I want to fly Unlimited someday, so I decided to just buy an Extra. I like to think of myself as a humble person, but you do this stuff because you want to win—everybody does. It hurts to lose."

Steve Johnson and His MX2

As safety chair for the IAC, Steve Johnson's day job also involves safety. "I'm a safety engineer for an insurance agency in Nashville," he says. "During the week, I make sure everyone goes home from their jobs with all their fingers and toes. It's also why I'm safety chair for the IAC now."

"My iPad runs ADS-B weather with a secondary artificial horizon, and then I have an autopilot driver. The iPad has the Stratus box. I run ForeFlight on that. It's very cool."



Steve Johnson shows off his tattoo that matches his wingtip. Steve's wife, Alice, has a matching tattoo.

Steve Johnson MX2 cockpit has the bare necessities.

Steve places his frog strategically to protect the air intake.

A fitting name for an airplane gifted by Steve's wife.

So what does Steve do on the weekends? "I do some local air shows; maybe two or three a year. I am a flight instructor, and I teach aerobatics. I have one Primary flight student that I've had for four, five years."

Steve, too, got exposed to aviation at a young age.

"My dad was a pilot in the Navy, so that's what I was going to do when I grew up," Steve begins. "He flew four tours in Vietnam, so was there for most of the conflict. He flew two tours in Phantoms, and two tours in Tomcats. The first year in Tomcats, they grounded them because they were shedding turbine blades, so he ended up flying whatever he could to keep his flight pay. So he flew some SPADs and OV-10s doing forward air control work. I grew up sitting on his lap flying. My vision wasn't good enough for me to go in the Navy, so I skydived and flew regular airplanes."

Steve's mother bought an aero-

batic ride in a Pitts Special for his 30th birthday from a friend named Don Panick. He was famous in his own right—having flown for the Holiday Inn team at one time. Steve loved aerobatics and was eventually able to purchase his own airplane.

"So I bought an EAA Acro Sport 1 in 1994," he says. "I flew one year in Sportsman and seven years in Intermediate with it. From '95-'99, I flew Intermediate. I upgraded to an S-2B in 2000 and flew it for eight years. It went to the Advanced World Aerobatic Contest in Poland in 2006, where I rented a stock S-2B. I was the only stock biplane out of two biplanes and 50 airplanes."

On his 20th wedding anniversary, Steve's wife, Alice, provided him with a gift certificate to purchase an MX2. "I ordered the MX in April of 2007. They said four to six months to build, but it took closer to a year. I got it in February of '08, and I took it to the Pendleton AWAC. I finished eighth place in it the first year I had it."

With all carbon-fiber construction, the MX is light years ahead of the Acro Sport. "This airplane is a two-seat Unlimited class aerobatic airplane," Steve says. "It's 100 percent carbon-fiber structure on the airframe. The landing gear's aluminum, and the engine mount is steel, but there's no steel structure in the wings or the fuselage. It weighs 1,284 pounds empty with 333 hp. When I go fly, it weighs about 1,625 pounds for a contest flight."

Sporting a Ly-Con-built ported and polished parallel valve IO-540, 10-to-1 pistons, cold-air induction, and tuned intake and exhaust, Steve says the performance is spectacular. "I just fill the acro tank. It holds 17 gallons, and it doesn't hurt my performance any, so I just fill the tank. I get over 400 degrees per second roll rate, plus and minus 14g's. I fly plus 10 and minus 6. As soon as I learn how to fly an outside snap roll, I'll try to fly Unlimited."

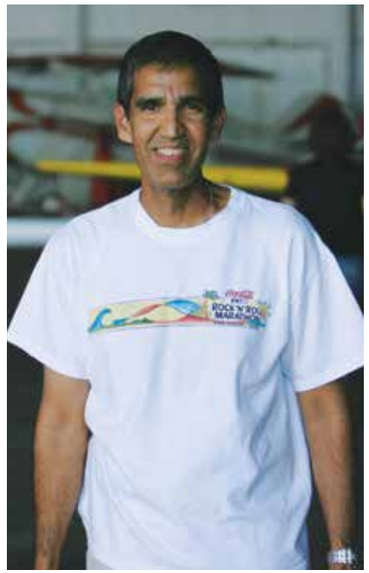
Looking inside the cockpit, Steve describes his instrumentation. "I've got an airspeed indicator and an altimeter, fancy TV screen engine monitor, and a Garmin comm/GPS. When I go on cross-countries, I've got a big portable device with an EFIS. My portable GPS has XM weather on it. It's a Garmin Aera. My iPad runs ADS-B weather with a secondary artificial horizon, and then I have an autopilot driver. The iPad has the Stratus box. I run ForeFlight on that. It's very cool."

Two First-Timers Give It a Whirl

If you're going to fly your first competition ever, why not at Nationals? Uttam Dhillon and Michael McCarthy both came to take their first shot at Nationals.

Both Uttam and Michael fly with Four Winds Aviation out of McKinney, Texas. This puts them within putting distance of Nationals, so it seems natural to give it a go at Grayson County.

Uttam Dhillon didn't even set out to fly aerobatics. "After I got my certificate," he says. "I decided



Uttam Dhillon flew his first competition ever at Nationals.

If you're going to fly your first competition ever, why not at Nationals?

Michael McCarthy flew his first-ever competition at Nationals.

I wanted to fly real airplanes, so I went to Four Winds Aviation and told them I wanted to get my tailwheel endorsement, and I wanted to do upset training. After I got my endorsement, my instructor, Clyde Kesling, tricked me into doing some aerobatic maneuvers. Before you know it, I was interested in doing aerobatics and learning more, so we started practicing the Primary sequence. Then it seemed like a good idea to compete. I think I started with them at the beginning of this year, a year after getting my certificate. I became slightly obsessed with learning aerobatics, and after finishing my third and final flight today, I think I can safely say I'm completely obsessed."

What began as a desire to be able to handle a tailwheel airplane has turned into an obsession to get better at competition aerobatics. "I would say I don't have more than 25 hours of tailwheel time altogether," Uttam says. "I really started out just wanting to fly the tailwheel, so we spent a lot of time in the pattern and doing the wheel and crosswind landing, etc. I really wanted to be proficient at it. I didn't want to be flying an aerobatic airplane I couldn't land. So I wanted to get the tailwheel endorsement first. Then I wanted to do upset and spin training, but Clyde tricked me into doing aerobatics. I'm bringing up the rear so far. I'm overall 8th out of nine, but I'm pleased to say I improved significantly on my second flight. My instructor thinks I did very well on my third flight. So if I see consistent improvement over the three days, I'll be a happy camper. I plan to come back next year, and I plan to fly competitions before the next Nationals. I'd like to fly Primary once or twice more before I try to move up to Sportsman."

Michael McCarthy was a flight instructor and used to fly Learjets before a long hiatus from flying. "I work in the office for Flexjet," he begins. "I decided I wanted to get back into flying, and thought what better way than to learn aerobatics, and learn to control your aircraft? I found Eric Forsythe, one of the best instructors I've seen so far. He's very patient. I immediately took a liking to it, aerobatics. I said, 'This is what I want to do. I want to go all the way,' and Eric convinced me to join the IAC and compete in Primary. I'm hoping to do Sportsman next year if I do well on this last run. I want to continue if I can. I'd like this as a hobby. Nationals is my first contest ever. I've got about 12 hours of flight in this airplane since 2002, and I'm second to last right now. I will probably end up flying in one or two contests next year." IAC

Challenges to Our Sport

BY DOUG JENKINS

In my December 2014 article entitled "Is Aerobatics a Rich Man's Sport?" I promised to detail what, if not cost, was what I believe to be the real drag on our sport. So here, in my opinion, is what's wrong with the world today. It is the way the current system raises and teaches pilots. It is also the expectations and desires of those entering the pilot training system. For, after all, one must be a pilot before one becomes an aerobatic pilot. This all really crystallized for me when I read J. Mac McClellan's commentary ("What Can We Trust?") in the July 2014 issue of *Sport Aviation*. This article opened my eyes to how many modern pilots approach aviation, and it made me sad.

The editorial started with, "There is nothing more critical in all types of flying than precise heading, altitude, and airspeed control." If only this was intended as being in reference to the X and Y axes. It was not. It was an argument that pilots should stare at their glass moving maps instead of looking out the window. Unfortunately, many pilots raised in today's training programs fully believe this, and this is what they are taught from day one. Please pause with me to shed a tear for this mode of thought and ponder what it means for the future of sport aerobatic flying. I can think of many things I would prioritize and value over "precise heading, altitude, and airspeed control." I would want a pilot who knew what their airplane was saying to them in terms of current angle of attack (AOA) versus critical AOA; a pilot who could, without reference to anything electronic, tell me where they were within a reasonable radius; a pilot who was confident they could make their airplane do what they wanted it to do. There are plenty of times when "precise heading, altitude, and airspeed control" is indeed required. In instrument meteorological conditions (IMC), tolerances must be tighter; an ILS to minimums requires these things and more, etc. But, to tell a brand new pilot that these are the Holy Grail is doing him or her a disservice. It is creating a system manager instead of a pilot. It is creating an instrument reader instead of a pilot. And here is where the first symptoms of our sport's illness spring from.

Next "the most fundamental of flying tasks" is keeping the airplane safely away from other aircraft, anything attached to the ground, or the ground itself until it is time to land. It is not flying a heading of 180 degrees instead of 181 degrees as Mac asserts. One could also argue that knowing your airplane, its capabilities, your capabilities, where you are, and where you are going are also perhaps "the most fundamental of flying tasks." Again, pilots raised today are taught to strictly adhere to airline pilot tolerances because they have displays that allow them to do so at the expense of truly knowing how to fly their airplanes. When I grew up, we had steam-powered gerbil-driven gauges that bounced all over the place and were mostly kind of accurate. Airspeed control in a Schweizer 2-33 or in my Taylorcraft was done as much, if not more, by feel as by reference to an airspeed indicator. Today's glass airspeed indicators are accurate to, and display airspeed to, the nearest knot. This leads instructors, thinking they are doing their students a favor, to demand performance to the nearest knot—which leads students to stare at their instruments. This is bad and further leads to the decay in sport aviation in general and aerobatics in particular. Most of us aerobatic fliers spend a lot more time looking at our wingtips than our instrument panels.

I truly believe that, largely as a result of the appearance of modern avionics systems, flying today lacks the allure, romance, and drama it held when I started out 32-plus years ago. While these systems have made flying easier and (perhaps) safer, they have also made it less fun and more sterile. It is much less challenging than it used to be. And that is perfectly okay with most pilots starting their training today. They grew up with effective technology that they trust. From computers to music players to phones to video games their lives have been full of technological wonders

A single-seat Pitts can compete in Advanced.

that have always worked. This is very different from what I grew up experiencing. I did not dream of flying behind the latest fancy stuff, I dreamed of flying P-51s out of Debden and escorting B-17s to Berlin. The kind of flying I always wanted to do involved hands-on stick and rudder skills; having my mettle tested in real and measurable ways. Pushing buttons never crossed my mind. I was constantly visualizing actual throttle, stick, and rudder inputs to achieve a desired result, not how I could push buttons to make the airplane respond. Fortunately I think there are still plenty of folks out there who dream of the kind of flying I am describing. But, when they pick up the mass media general aviation magazines they read about…gee whiz automation, really cool glass panels, the fun of being a system manager, the downward spiral of the airline pilot, etc. and they begin to wonder. They wonder what happened to the days of stick and rudder flying that they used to read about. They wonder what happened to the pure fun of flying. They wonder if there are there still airplanes out there that require actual pilot skill to fly and not video game skill because they can play video games at home. We know the answers

The One Design is a great little airplane.

to those questions. That kind of flying does indeed exist, those airplanes do indeed still exist, and that challenge is still out there. We need to spread those words as counterpoint to the drumbeat of boredom and sameness. To cure what ails us.

Next the editorial opined that people who advocate for old-school flying skills want flying to be more difficult than it really is. I don't want flying to be harder than it needs to be—it's really quite simple. Keep the airplane shiny side up and pointy end forward (unless you are doing something intentional and fun that requires another orientation of the aircraft). Have a rough idea of where you are and where you are going. Look out the window for other airplanes, obstructions, decaying weather, and for the fun of it! The editorial compared golf to flying, and yes, while all of the advances in aeronautical technology do indeed make it possible for the Sunday duffer to consistently hit the aeronautical equivalent of the golf ball 320 yards right down the fairway, they also engender a false sense of confidence. "See how easy this is . . . anyone can do this." That's all well and good until actual pilot skills are required. Not button pushing, not avionics programming, not system managing but honest to goodness pilot skills. Many pilots raised in today's system are great rote button pushers but lack the skills crucial to dealing with the unexpected or the knowledge of how to extricate themselves from a bad situation. In the August 2014 "Aftermath" column in *Flying* magazine Peter Garrison touches on the lack of fundamental skills some modern pilots suffer from. The pilot in this case had "[. . . 1,000 total hours, 400 in type and was . . ."] described as conscientious about her flying and duly cautious about turbulence. But there was no indication that she had aerobatic training, had ever experienced a spin, or had any preparation, other than the rather tame 'unusual attitudes' of the private ride, for a really violent upset. In fact, her husband reported that she typically hand-flew only 10 minutes of a flight; the rest of the time she just keyed instructions into the autopilot. She was not unusual; most modern pilots fly this way. And she, along with her two children, died when her Cessna 210 crashed in a normal upright spin. Do you see the same tragedy here that I do? These pilots find the mere thought of intentional aerobatic flight an anathema to everything they have been taught is "right" and "good," and it terrifies them. We need to show them otherwise in every way possible and at every opportunity.

Next the editorial described outlets for those without access to the fancy avionics or with the insane desire to deviate from the norm. Soaring, aerobatics, and spot landing contests all got mentioned. The author of the editorial truly believes that precise control is learned by meticulous holding of heading, altitude, and airspeed and not by (his words) "oddball maneuvers" like lazy-eights and turns around a point. I'm sure that a 2 of 4 followed by a half-loop down is something much worse than "oddball." The author is describing a system-monitoring autopilot who is a slave to the arbitrary 10 degrees, 100 feet, and 10 knots criteria and missing the forest for the trees and missing the point. The pilot who can hold those parameters at the expense of looking around and enjoying what they are doing will be a poor pilot, a bored pilot, and a pilot who will soon buy a boat instead of an airplane and certainly not a pilot who will aspire to fly competition aerobatics. This attitude further threatens our sport. I suppose that these "oddball" activities may not be "the mainstream of flying," and I do not advocate that every pilot "be forced to learn" these skills, but the skills the author relegated to the fringe are the heart of the IAC. And this is how most modern pilots are raised and taught! Keep in mind this was in

Patric Coggin's RV4 can compete in Sportsman when flown properly.

EAA's flagship publication, not *AOPA Pilot*, not *Flying*, not *Business Aviation*. This is the kind of thinking we are up against. The kind of thinking that is rotten to the core. The kind of thinking that is creating less safe pilots. The kind of thinking that is killing sport aviation by the death of 1,000 cuts, and it is friendly fire.

The penultimate paragraph was the most depressing of all. Its devaluation of fundamental skills almost made me vomit and cry at the same time. It revealed the nature of the flying and skills many modern pilots value. Unfortunately, most modern flying is done behind a glass panel almost never looking out the window to enjoy the view. There is certainly nothing wrong with this. I know many pilots who fly this way and enjoy it. But like a driver who knows only an automatic transmission they are closed off from a far wider world. They are denied the joy of reaching a destination using planning, maps, and guile. They will not know the satisfaction of alighting in a tailwheel airplane in a challenging crosswind. They will not thrill to earning a "10" from a judge for their one-and-a-half turn spin. They will not because they cannot. But these are skills that anyone can learn given motivation and time. I started flying because I wanted to be a pilot, not a systems manager. I wanted to feel the flight controls in my hand, to have an honest two-way conversation with my airplane, not ATC. There are two Italians whose inventions we see in aviation. Bernoulli's ideas are need to have; Marconi's are nice to have. I was taught long ago you can drop the radio to fly the airplane, but never the other way around. Today I would expand that thought to this: You can drop the automation to fly the airplane, but not the other way around . . . but only if you know how. And without our interdiction too many pilots will not know how.

In the end, I think the editorial had it backwards. Fundamental skills should be viewed not as detracting from being precisely on altitude; being precisely on altitude should be viewed as being a distraction from looking at your sectional to keep up with where you are. Looking inside to verify that your heading is spot on should be viewed as detracting from your scan for other aircraft. Give me a pilot ahead of a panel manager any day of the week. These skills are still out there, and I hope that some student pilots will seek out those who can still teach them.

As I reread the editorial, I was struck by the, perhaps unintentional, irony of the title. What can we trust? We can trust our eyes, we can trust a map, we can trust the feel of the wind over our wings, and we can trust the skills that have been fundamental to aviation since the beginning. So, I suppose, if I had my way, the pilot training system would look something like this. A strong emphasis on the basics: air work ("oddball maneuvers"), brain work (situational awareness), decision-making, spin prevention and recovery, pilotage and deductive reckoning, and let's throw in some tailwheel training, too. By the way, what I just described looks a lot like USAF pilot training (minus the tailwheel part). I firmly believe that the product at the end of this pipeline would be safer and more confident than the pilot we see all too often today who can only marginally fly an airplane but who can push the heck out of a button or two. That pilot would also see aerobatics as a natural extension of what they already knew, not some terrifying thing beyond their realm of comprehension.

So how does this relate to us in the IAC and our current struggles? Let me tie it all together very directly. Most pilots raised in the modern pilot training system are simply not interested in aerobatics or are truly frightened of them. Both of these attitudes exist for the same reason . . . how these pilots were taught. Anything beyond 30 degrees of bank is bad…stay right here in the heart of the envelope…these pesky stalls and slow flight things are just unpleasantries we need to get through before we can move on to cross-

Chrissy and Doug Jenkins.

country flight . . . etc. Pilots raised to be fearful of 45 degrees of bank, raised to stare at their panels, raised to value rock-steady attitude maintenance above all else simply do not see the value in aerobatics. It scares them because it is the unknown. If your fun-meter is pegged out by being within 10 feet of your desired altitude for an entire cross-country leg, then there is certainly no motivation to pursue an activity where your altitude will vary wildly every few seconds.

So how do we fix it? I have several thoughts. First, those of us who are CFIs owe it to ourselves and the future of sport aviation to teach flying the way it should be taught. Emphasize the basic skills. Emphasize flying by looking outside. Emphasize talking with your airplane. Emphasize flying the airplane confidently through its envelope . . . stalls, spins, dive recoveries, upset recoveries, etc. A pilot who possesses these foundational skills will be safer and more capable regardless of their future aviation pursuits. And they will be more likely to view aerobatics as fun instead of scary. Second, all of us can mentor fledgling aviators. If you know someone who is taking flight training, recently completed flight training, or just eyes your airplane with a look of curious desire and you have a two-place aerobatic airplane, offer to take them on a quick introduction to aerobatics flight! How many pilots do you know of whose story goes something like this, "After that first aerobatic flight I was hooked!" Be the fisherperson who sets that hook and reels them in. Third, we can all be positive ambassadors for the sport. Fly your airplanes in a manner above reproach. Show that aerobatic pilots are not death-defying daredevils but simply mere mortals who enjoy the challenge of all-attitude flight. Make it look safe and fun because it is. Finally, be open, welcoming, and encouraging whether it's in your hangar, at the FBO, at a chapter meeting, or at a contest. Spreading the word that "You can do this" is perhaps our best weapon. Too many pilots think, because of the way they've been trained or because of a negative attitude from their CFI toward aerobatics, that this is something that they could never aspire to. Show them that they are wrong. Too many pilots think that they don't have the skill/ability/whatever to fly aerobatics at all much less fly in contests. They are wrong. Given enough bananas I could teach a monkey to fly Primary. Once we get them in the competition door, I bet they get hooked.

So, finally, we get to the IAC's role. Regional and National contests are (for better or worse) what the IAC does, and the reason I personally pay dues. Some lament the "contest focused" or "contest centric" nature of the IAC, but if you want to fly loops to music, you really don't need the organizational structure of the IAC. If on the other hand you want to measure yourself against perfection in a fun atmosphere, then the IAC contests are where it's at. This is not to say that the IAC shouldn't offer useful information for the casual aerobat or those who are "just looking," but getting those people to climb the ladder and join the fun at a contest should (I believe) be the ultimate goal. Maybe it's just my personality, but having a routine to fly focuses my attention and keeps me from getting bored. Flying the Pitts is a blast, but just flying random hammerheads would lose its allure eventually. Striving for the perfect hammerhead, in front of a jury of my peers, never gets boring. The fun and thrill of competition flying is what we need to sell. You can start with a non-aerobatic flier and offer them a road map to get competition ready in a very few hours. It is certainly not out of the reach of anyone. If I can do it, then I firmly believe that anyone can do it!

Spread that concept at every opportunity by word and deed. Encourage the curious gawker or the neophyte. Show them what they can do. Show them the tremendous sense of pride and fulfillment that comes with being the master of your aircraft in any attitude. Show them that flying doesn't need to be rote and boring...show them the very definition of fun! But understand all the preconceived and built-in negative attitudes you may have to overcome to get there. They are scared. They have been taught that what they are about to do is simply not safe. Show them that it is. I fly many Young Eagles flights each year, and they are a blast. Perhaps we need our own version of Young Eagles? How about scouring the FAA records for student and newly minted private pilots and directing them to a local volunteer (mentor) with a two-seat acro mount and the desire to fire the imagination of a new generation and show them that fun, challenging, and thrilling are still words associated with flying? Will you be that mentor?

IAC

MIKE HEUER COMMENTARY

continued from page 3

IAC member from California and competition pilot, we are beginning a new branding of the IAC that will include new logos and icons for the organization. You can see the new logo on the cover of this issue and more news in these pages about how and why. Margo is a marketing professional with her own highly successful business and is representative of the vast amount of talent we have in our group. The IAC Brand Guide that Margo created will provide the standards and guidelines we will be using in all of our merchandise, publications, and web presence. My thanks go to Margo for her dedication and incredible creativity.

Why is branding important? Because it visually presents who we are, our mission, and what we offer. Our color palette will be the colors of America's flag—red, white, and blue. This reflects the fact that though we accept and welcome members from all over the globe, the IAC is essentially an American organization and responsible for representing the United States in world air sports bodies and sending teams to world championships. We also hold the franchise on aerobatic competition here in the United States. I am proud of the fact we have members in dozens of countries, however, and happy that we continue to offer them services and guidance they value. It has always warmed my heart when I see contests held around the world using our contest categories—and even using the English names when that it is not that country's native language.

I hope to see many of you around the circuit this year, and on behalf of Team IAC—our officers, directors, and committees—I wish you all the best for the new year!

IAC

Glide Ratio

Some (useful) considerations

BY ALBERTO BECCARO
IAC 25833

Recently, there was a discussion on the Exploder about glide ratio and the influence of aircraft weight on best glide speed. Some very useful information came out; here I try to summarize it and add something of my own.

It started with the question about the Pitts best glide ratio value, in order to have a good assessment of the distance you can fly in a power-off (emergency) glide. Somebody feared it was close to a brick, but in the end, it came out that the factory considers 6-to-1 as the glide ratio.

Some very interesting flight data came out too from Pitts owners; one that I find very useful shows that during a power-off glide at best glide speed, an S-2B loses about 400 feet for a 90-degree turn with propeller control full forward and about 310 feet for the same turn with propeller control full backward. It is also valid for my S-2A, since when I practice emergency landings I overfly the runway (09-27 orientation) at 1,500 feet above ground heading north and then land on Runway 09 after a 270-degree turn. I have to stay close to the runway; otherwise, I am not able to make it (starting from the middle of the runway I also have to move toward the threshold).

On this subject, I've never had the opportunity to take a close look at fast biplanes like the ones competing in Reno, but it would be interesting to try to apply some drag-reduction solutions used there to our biplanes, at least the less invasive ones.

So basically the thread answered (also thanks to Aviat) the question about glide ratio, but not the one about the influence of weight on best glide speed. I would like to try to do it with a simple reasoning.

We know that the glide ratio depends on L/D, not on speed. The speed we aim for in a glide is the one where we get the lift coefficient (C_L) for the best L/D (or C_L/C_D).

The standard relation $W = L = \frac{1}{2} \rho V^2 Sw C_L$

where

W: aircraft weight

L: lift

ρ: air density

Sw: wing area

V: aircraft speed

is valid for 1*g* level flight but can be valid a for a descent with a small glide angle (one can argue if the Pitts glide angle is small!); anyway, this is just to remind that speed and lift are linked by a square relationship and lift in 1*g* flight means approximate weight.

In the case of best glide, the C_L is fixed (see Figure 1).

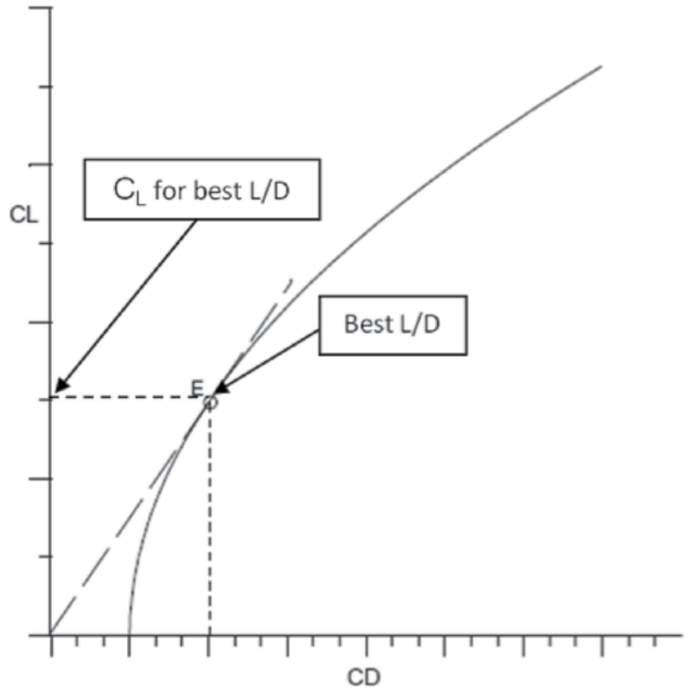


Figure 1

For the maximum weight (MTOW, maximum takeoff weight: for small aircraft usually there is no difference between maximum takeoff weight and maximum landing weight):
$MTOW = \frac{1}{2} \rho (V^2)_{best\ glide} Sw (C_L)_{best\ glide}$

The speed value for MTOW is the one usually reported in the flight manual or pilot operating handbook.

If we change the weight, the $(C_L)_{best\ glide}$ value does not change, it depends only on the aircraft aerodynamics, see Figure 1, so we have to change (decrease since we are flying below MTOW) the speed in order to get the same C_L value during the glide.

Somebody pointed out that the Cessna POH suggests a 5 percent speed decrease for each 10 percent of weight decrease MTOW, and this is fairly accurate since the speed is squared in the formula, so the percentage must be halved.

This means that an S-2 flying solo or with a passenger can change its weight by 8-10 percent; therefore, we have to reduce the best glide speed (around 100 mph at MTOW) by 4-5 mph.

Blogs and mailing lists/Exploder are very powerful tools to link people and to share information; the amount of data and experience in these forums is amazing, ranging from technical people to very experienced pilots and very experienced builders; not forgetting the historical data we know. I think it is wise for our community to summarize some threads in articles in order to get the maximum benefit from them. IAC

CHRIS GORGIO, THINKSTOCK.COM

Foreign Objects

Hidden dangers

ARTICLE AND PHOTOS BY STEVE JOHNSON,
IAC SAFETY CHAIRMAN

Please remember this is a true story . . .

Well, it's winter again, so time to slow down and get that "deferred maintenance" done on our airplanes; you know, all those things we said could wait until after the contest season to fix, as well as our normal winter annual inspection, which should include a very good inspection of all those hard-to-see areas we may ignore later on. Those hard-to-see areas can be a little tricky; what's not important to one inspector's eye may be very important to another.

Everyone who has flown at least one contest has had his technical inspection done. The technical inspectors always want to look down the tail. They are looking for foreign objects that shouldn't be there (foreign, right?): washers, bolts, nuts, screws, pens/pencils, fuel samplers, video cameras (keep reading), headset earmuffs, tools, etc. Any of these objects could become lodged, typically, in our elevator systems and jam the controls. Plus, if there is an object loose in the airplane, there is no reason it can't get lodged elsewhere while we are flying aerobatics. A grounded battery or bus bar could also be catastrophic from heat and potential fire. It just seems that most of the time, the loose objects make their way to the tail area. The way most of our airplanes are designed, with two elevator halves that mate to a pushrod in the empennage, leaves a very vulnerable area for foreign objects to become caught. If something gets caught in this area, even as small as a Number 6 or 8 screw, the elevator control can become jammed with very little or no "up" elevator control. Are you ready to have to push out of a dive in an emergency? That's the only way when there is not enough up elevator control. Here's a little story that happened just this last spring in an early IAC contest.

The pilot arrived at the contest, went through registration, and made a practice flight. I happened to be coaching the pilot during this flight when the pilot, very excitedly, called in that they were breaking off the flight—they had a control issue. I cleared the airspace and runway visually and told the pilot they had the airport. I asked on the radio what the problem was, and the pilot responded, "The controls were jammed." A smooth but flat glide slope landing was made, and the airplane cleared the runway. As the pilot was taxiing back, I asked what happened, and the pilot said, "Look at my elevator. That's all the up I have." There was just a very slight nose-up angle visible on the elevator, but the pilot moved the control stick and the elevator went down and up a few times, finally reaching a normal full-up appearance. Once the engine was shut down, several of us went to look at the airplane. Initial inspections down the tail didn't find anything jamming the elevator or even anything unusual in the tail area. We started looking back up the control system at the idler bellcrank and single-seat control stick. Nothing was found there. The sun was getting lower in the sky that afternoon, so visibility in the empennage was not good, even with the tail inspection plates removed. Someone had the great idea of taking some photos with their smartphone and then looking at the photos.

Ballpoint pen and headset earmuffs found in the tail.

Video camera found in the tail.

Using our smartphones this way is a terrific method for seeing areas that are awkward to observe or may be dark. The first photos we took were with no flash, and they showed nothing we couldn't see with our own eyes. But when we got the flash in play and the angles right, we found the problem. There are four different foreign objects in the photos above. Once we started using the zoom function on the smartphone camera, the problems became much easier to see. Of course, we still had to fish the foreign objects out of the tail and ensure we got it all. I don't have a good photo of the fourth object, a folded-up set of foam earplugs, but they can be seen as the orange spot in the photos of the tail, after we removed some of the other foreign objects.

This airplane had had a recent annual inspection and had had all the previous annual inspections going back several years. But the items we pulled out of the tail had obviously been there awhile. The ballpoint pen had several areas near the writing tip where it had been crushed and squeezed by something. The cloth earmuffs had old, old grease on them. And the video camera, yep, a video camera (why didn't whoever was making the video get the camera back out, just to see his video?) was of a much older design than our current Contour and GoPro cameras used now.

After a couple of very strenuous hours, all of the foreign objects were removed from the airplane, and the contest went well the rest of the weekend. The pilot was very relieved to know what the problem was and that the problem had been solved; there were no more questions about this stick-jamming hazard. But the pilot was also very upset about why four different foreign object pieces had not been found during the several annual inspections this airplane had gone through. "Regular" airplane mechanics don't think or know about the

There are four different foreign objects in this empennage area. Some are visible in these photos.

Orange earplugs visible in the far back.

uses and stresses our aerobatic airplanes go through. I polled several mechanics at my local airport, where they work on everything from C-152s to King Airs, so they are experienced, well-rounded mechanics. They all said they looked down the tail, with a flashlight, from the cockpit or rear baggage area. Most of those aft areas can be easily seen and reached from the outside in modern non-aerobatic airplanes, and the mechanics all said they could see everything they needed from the cockpit or baggage area, or from outside the airplane. The inspection panels in regular GA airplanes are typically much larger than the 3-inch round inspection plates used on our airplanes, so what the mechanics said does make sense. Also, with the cable controls used in most modern GA airplanes, there is less chance of foreign objects becoming caught in pinch points, like our pushrod-controlled elevator, though cable controls can be fouled as well.

This winter, during our slower flying season, please make sure you—or your mechanic—have inspected all the nooks and crannies in your airplane. Where could a foreign object get to? Again, in our aerobatic airplanes, most loose objects go toward the tail. Make sure, after any work is done on your airplane, that those dropped washers or nuts are located and fished out. Did all the tools get put back in the toolbox? Even a small wrench can hurt when moving at 5*g* of acceleration.

Please remember this is a true story—four different foreign objects, found in the tail of the same airplane! When the tech inspectors seem a little picky at a contest, this is what they are trying to prevent. The tech inspectors are looking at your airplane as an aerobatic airplane, not just an airplane. Once I learned this, I appreciated everything the tech inspectors ever said to me. When I got my first acro mount, an EAA Super Acro Sport, I had my local GA mechanic go over the airplane very carefully, and I thought he did a great job. When I went to my second contest, the tech inspector was all over my aileron slave struts. I was thinking my mechanic just looked at this—it's fine. Then the inspector, Phil Sisson in Illinois, showed me how the small washers on my slave struts wouldn't hold the rod end in place if the ball joint failed. The rod end, if the ball joint failed, could slide right over the small washer, leaving a loose slave strut blowing in the wind, and disconnecting one aileron. Once he showed me this, thoughts of aileron flutter went through my head; then, what would happen if the slave strut started whipping around? What could it hit? Could it tear off my stabilizer if it came loose? Suddenly, large-diameter washers made a whole lot more sense. Our airplanes have these quirks and idiosyncrasies that are different from regular GA airplanes. Be sure your mechanic knows and understands these differences when you trust him to do your annual inspections and other repair and maintenance work. There are a few good traveling mechanics within the IAC. They know and understand our airplanes and know where the failure points are for our particular makes and models.

Which do think will wear through and fail first—the quarter or the aileron cable in this Decathlon?

Don't let foreign-object control jams happen to you. Make sure nothing gets loose and lost in your airplane. Account for all of your tools, do your own close inspections of your empennage, and let the tech inspectors and acro mechanics keep you safe in the box! *IAC*

BY GARY DEBAUN, IAC #4145

J.J. Humphreys

Name: J.J. Humphreys
Nickname: "Akro Man"
IAC: 432580
Occupation: Drafting designer for Air Tractor Inc.
Chapter Affiliation: 24

GD: J.J., how did you get your start in aerobatics?

JH: I got my pilot's license a couple of years after starting my job at Air Tractor, and I really wanted to fly one of those awesome machines, so the next step was to get a tailwheel endorsement. I went to Four Winds Aviation in McKinney, Texas, and got my endorsement in their Super Decathlon. The school also offered basic aerobatic instruction, which I immediately signed up for. It wasn't long before I was flying the Super D at local contests.

GD: I heard some folks calling you "Akro Man" at the Nationals last year, so is that your nickname and how did you get it?

JH: I guess you could say "Akro Man" is my alter ego. I try to be as safe as possible in the aircraft, so I showed up at the Lone Star contest a couple of years ago wearing a flashy blue and white, Ricky Bobby-lookin' three-layer driving suit. As I was walking to my plane, my friends Kate Kyer and Julia Wood yelled, "It's a bird! It's a plane! IT'S AKRO MAN!" The name just kinda stuck.

GD: Who has inspired you the most in aviation/aerobatics?

JH: My dad was obviously the biggest influence. My earliest air show memory was when he took me out to the flightline to introduce me to his friend, Jim Franklin. I've spent countless hours watching Kirby Chambliss and David Martin practice their sequences at KONY. I'm fortunate to have some of the best coaches and mentors around—Wayne Handley, Bill Stein, Tony and Julia Wood, just to name a few. Oh, and thanks to Dave Honaker and Four Winds Aviation for that tailwheel endorsement!

GD: Where and when did you fly your first contest, what aircraft did you fly, and how did you do?

JH: I flew a Super Decathlon at the '06 Lone Star where I managed to walk away with a third-place trophy in Sportsman.

GD: What category are you currently flying? Any plans on moving up?

JH: I plan on moving up to Intermediate this year, but it all depends on how much practice time I can get in . . .

GD: What aerobatic aircraft do you currently own?

JH: I haven't bought an aerobatic aircraft yet, as I'm working on a new monoplane design. In the meantime, "Akro Man" flies a rental S-2B Pitts from Four Winds.

GD: If you could change anything about the IAC, what would it be and why?

JH: That's a tough question. The IAC is a great organization, which I'm proud to be a part of. There are a few aspects of the contest environment that I could do without, but these same issues are present in any other competitive sport.

GD: What contests do you regularly fly? Do you have a favorite and why?

JH: The Lone Star contest and the U.S. Nationals are just down the road in Sherman, Texas, so those are the "mandatory" contests for me every year. Not to mention, the cowboy buckle "trophies" at the Lone Star are awesome! The Hill Country Hammerfest and Okie Dust Devil contests are also a lot of fun. I've tried to go to Grenada a couple of times, but the weather never has cooperated. Maybe this year . . .

GD: Do you have any other hobbies/interests?

JH: When I'm not at the office drawing airplanes, I spend most of my spare time as a mission pilot and aerospace education officer for the local Civil Air Patrol squadron. I also like photography, so I usually have a camera with me at any of the air shows or contests that I go to. IAC

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. You can do this by filling out the sanction and calendar form.*

Snowbird Acro Classic (Southeast)
Friday, February 27 – Saturday, February 28, 2015
Practice/Registration: Wednesday, February 25—Friday, February 27
Rain/Weather: Sunday, March 1
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Marion County Airport (X35), Dunnellon, FL
Region: Southeast
Contest Director: Chris Rudd
Contact Information: 850-766-3756
E-Mail: *invertedribboncut@gmail.com*

San Diego Hammer Heads Round Up (Southwest)
Thursday, March 26 – Saturday, March 28, 2015
Practice/Registration: Thursday, March 26
Rain/Weather: Friday, March 27
Power: Primary through Unlimited
Location: Borrego Springs Airport (L08): Borrego Springs
Region: Southwest
Contest Director: Bill Hill
Contact Information: 949-637-0483
E-Mail: *hillgroup@cox.net*
Website: *http://www.iac36.org/*

ACE's High Spring Opener (South Central)
Saturday, May 9 – Saturday, May 9, 2015
Practice/Registration: Friday, May 8
Rain/Weather: Sunday, May 10
Power Categories: Primary Sportsman
Location: Newton City County Airport (EWK): Newton, KS
Region: South Central
Contest Director: Mark Wood
Contact Information: 602-361-3504
E-Mail: *Mark@dreamcatcheraviation.com*

Ohio Aerobatic Open (Mid-America)
Friday, June 19 – Saturday, June 20, 2015
Practice/Registration: Thursday, June 18
Rain/Weather: Sunday, June 21
Power: Primary through Unlimited
Location: Bellefontaine Regional (EDJ): Bellefontaine, OH
Region: Mid-America
Contest Director: Gordon Penner
Contact Information: 513-520-6065
E-Mail: *penner.gk@gmail.com*
Website: *iac34.eaachapter.org*

IAC West Open Championship (South Central)
Saturday, June 27 – Sunday, June 28, 2015
Practice/Registration: Thursday, June 25 – Friday, June 26
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Seward Municipal Airport (SWT): Nebraska
Region: South Central
Contest Director: Ed Bowes
Contact Information: 402.770.5966
E-Mail: *edbowes@windstream.net*
Website: *IAC80.org*

Michigan Aerobatic Open (Mid-America)
Saturday, July 11 – Sunday, July 12, 2015
Practice/Registration: Friday, July 10
Power: Primary through Unlimited
Location: James Clements (3cm): Bay City, Michigan
Region: Mid-America
Contest Director: Brian Roodvoets
Contact Information: 810-667-0642
E-Mail: *redfoot@chartermi.net*
Website: *http://www.iac88.eaachapter.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
Contact Information: 802 585 0366
E-Mail: *wsgordon@earthlink.net*
Website: *www.iac35.aerobaticsweb.org*

Doug Yost Challenge (Mid-America)
Saturday, August 15 – Tuesday, August 16, 2016
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)
Contact Information: 651-338-3345
E-Mail: *jhisbatman@yahoo.com*
Website: *www.iac78.org*

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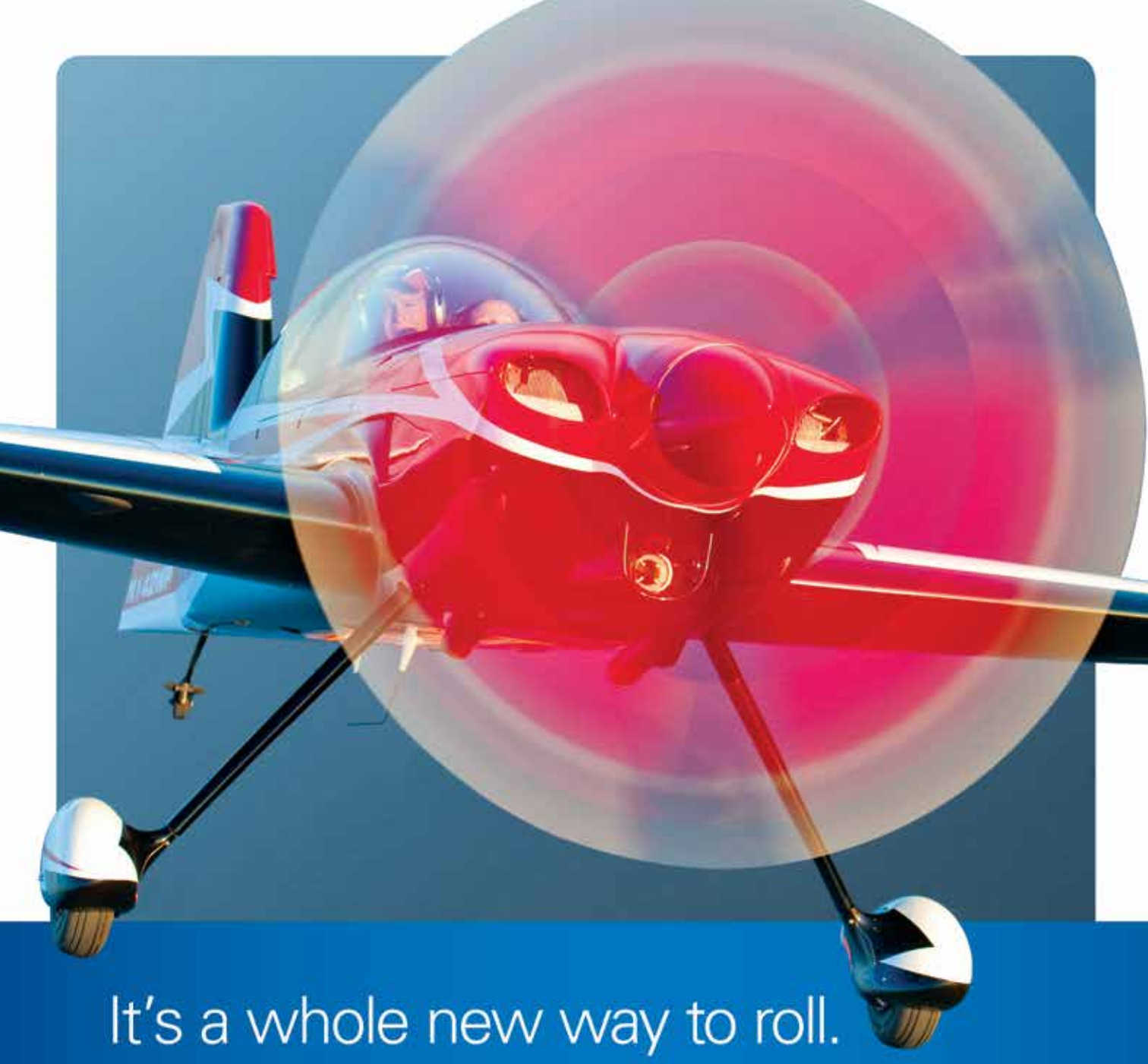

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