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# SPORT *aerobatics*

OFFICIAL MAGAZINE OF THE INTERNATIONAL AEROBATIC CLUB

# WAC 2009

*Triumph  
and Tragedy*

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The Spanish team in formation over Silverstone, England.

– Photo: LG Arvidsson

# SPORT Aerobatics

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## LETTER from the EDITOR

by Reggie Paulk

# Bittersweet: The World Aerobatic Championship

The November issue is dedicated to coverage of the World Aerobic Championship (WAC). It's a bittersweet tale because this is where we lost Vicki Cruse. As we move into a new chapter as an organization, her legacy lives on in the memories of all those she touched during her time here.

U.S. Team Manager Norm DeWitt recounts his experience at the WAC. Norm and Vicki were good friends, and I know this has been a particularly difficult time for him. Given the circumstances, I would have understood if he couldn't write a piece, but he kept to his commitment to provide his personal account of the 2009 WAC.

FAI Aerobatics Commission (CIVA) President Mike Heuer dives into the WAC experience with his piece this

month, and gives us a front-row glimpse into the elite experience of world aerobatic competition. If you weren't there, you'll feel as if you were as he takes you from opening to closing ceremonies.

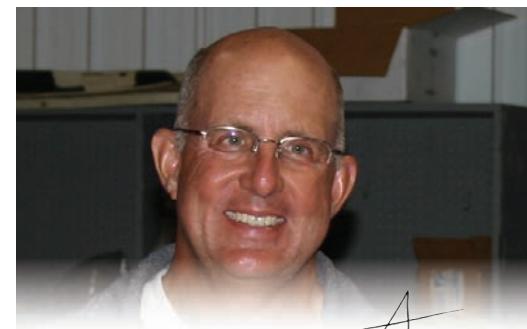
As the photos show, the setting was incredible. The English countryside was a spectacular backdrop for a competition that challenged competitors and officials alike. The finicky English weather tried its best to prevent the pilots from taking to the air, but the aviators prevailed.

Congratulations is in order for all of the volunteers, support staff and competitors who expend tremendous personal and financial resources for the sole purpose of showing the world the best aerobatic competition has to offer. ☺

*"If you weren't  
there, you'll feel  
as if you were."*

## PRESIDENT'S PAGE

by Doug Bartlett



Douglas S. Bartlett

## Taking the Helm of a Sound Ship

**W**hat a wonderful organization this group of people called the International Aerobatic Club really is. Over the past few months, the organization has been rocked with loss, but it has continued to function effectively through this most difficult period. This did not happen by accident, but is the result of solid organizational planning on the part of our prior presidents, directors, and staff. Our vice president, Doug Sowder, stepped up immediately and took the lead as acting president and guided us through a process of quickly filling the vacant office of president. When you see Doug, thank him for his quick, skillful leadership during this difficult period. It was a job well done.

I knew when asked to take the job as president of the IAC there was much work to be done. This was no surprise because Vicki had asked me to run for the office over a year ago and had been preparing me for the task ahead. There have been no surprises or fires to put out because the IAC was well led and in sound order. The work to be done is not due to gaps left in the organization; it's only the ongoing work of a solid organization. I'm pleased to report to you that the IAC is organizationally strong and financially sound.

Each fall and spring our officers, directors, and staff meet to review the club's present course and to make any changes we find necessary. If our planning is good, these changes are subtle in nature. But as in all good organizations, the changing needs of the membership are an ongoing process.

The most important task ahead of the IAC in the long term is membership retention and expansion. As past treasurer, I had watched the financial impact of a slowly declining membership in the IAC. Although the decline has been a small 1 to 2 percent per year, and is consistent with the decline in most

other groups, the long-term impact is clear. A declining membership results in declining finances and threatens an organization. The IAC, while maintaining its commitment to educational training and placing the highest priority on safety, must increase its effort of providing more value to its current members and grow the membership numbers by providing ongoing value to new aerobatic enthusiasts.

There are approximately 4,000 members in the IAC. They are divided into two broad categories: competitors and aerobatic enthusiasts. At the chapter and national level, we have many activities for the competitors who make up about 500 of our members. For the aerobatic enthusiast, we have only AirVenture and Sun 'n Fun. We need to expand our efforts for these members by enhancing these activities at the chapter and national level. And of course we need to expand the educational and social activities that bring all members together.

With this in mind, we will expand a group of volunteers within the IAC to focus on the task of retention and expansion. We will begin taking advantage of the opportunities the Internet gives us to reach out to our members by providing you with fresh and continuous aerobatic updates of a wide variety. While our magazine will continue to be our main publication, shortly we will begin to establish an e-newsletter that will bring us closer to our membership on a more frequent basis. I encourage all members and chapters to participate by providing individual and chapter updates as this tool develops.

A second area of focus for the membership committee will be to concentrate on supporting the local chapters. One of the best ways of growing our membership is through our many chapters. It is no surprise

that the largest chapters are typically the most active chapters. Enjoyable events that bring people together to share their passion for aerobatic flight give people reasons to stay engaged in the IAC. It is not enough for a chapter to just run a good regional contest. Although this is no small task and requires the support of many volunteers, it reaches out to only a small portion of our total members. The events that make chapters successful in the long run are the enjoyable activities that bring us together on a continual basis and allow strong bonds of friendship to develop. My local airport works hard at bringing a wide variety of aviation enthusiasts together with monthly activities such as spot-landing contests, chili cook-offs, hangar mystery plays, flour-drop contests, and the like. Our membership committee will work to provide guidelines for a wide range of these activities.

When our officers and directors gather at our board meetings, member feedback is always strongly considered in our actions. I would like to encourage each member of our organization to provide input to the organization; there are several ways to do this. Our regional directors provide an update on the happenings of their area at each board meeting. They are responsible for contacting the chapter presidents and forwarding their inputs. By participating at the chapter level you can help guide the national organization. A second way of providing input is to contact your regional representative directly. Contact information is provided on the IAC website. This is an excellent method to have your voice heard.

However, the best way to make an impact in the IAC at any level is to get directly involved. In the year ahead, I look forward to meeting many more of our members and supporting you in the tasks ahead of us all. 

## WAC 2009 Official Results and Final Standings • Consolidated Team Results

**CONTEST DIRECTOR:** Steve Green (GBR) **CONTEST CHIEF JUDGE:** Graham Hill (GBR) **SCORING DIRECTOR:** Jurgen Leukefeld (GER)

**FLIGHT DIRECTOR:** Alan Cassidy (GBR) **JUDGES:** Graham Hill (GBR), Vladimir Kotelnikov (RUS), Kimmo Virtanen (FIN), Francis Itier (FRA), Quintin

Hawthorne (RSA), Timo Bartholdi (FIN), Tomas Korinek (CZE), Hannes Graf (GER), Tom Adams (USA), Algis Orlickas (LIT), Lyudmila Zelenina (UKR)

**JUDGES ASSISTANTS:** Mikhail Bezdenezhnykh, Nick Buckenham, Jim Wells, Bernard Courtois, Laszlo Liskay, Tuula Bartholdi, Richard Ponizil, Helga Bohlig, Vytas Tautkevicius, Chris Rudd, Sergiy Kryvoruchko **JURY MEMBERS:** Mike Heuer (USA), Robert Chomono (FRA), Osmo Jalovaara (FIN)

1	FRANCE	Aircraft Type	Reg'n	Q #1	Free #1	Totals	O/all %
FRA	Renaud Ecalle	Extra 330SC	F-TGCI	2615.18	3540.08	6155.26	78.51
FRA	Francois Le Vot	Extra 330SC	F-TGCJ	2602.43	3344.18	5946.61	75.85
FRA	Pierre Varloteaux	Extra 330SC	F-TGCCJ	2520.54	3368.22	5888.76	75.11
<b>17990.64</b>							<b>76.49</b>
2	<b>RUSSIA</b>						
RUS	Alexander Krotov	Sukhoi 26M3	RA-00665	2589.71	3362.74	5952.45	75.92
RUS	Mikhail Mamistov	Sukhoi 26M3	RA-00665	2519.26	3404.39	5923.65	75.56
RUS	Oleg Shpolyanskiy	Sukhoi 26M3	RA-00665	2481.39	3403.24	5884.63	75.06
<b>17760.73</b>							<b>75.51</b>
3	<b>UNITED STATES</b>						
USA	Jeff Boerboon	Extra-330SC	D-EXUS	2562.02	3291.49	5853.51	74.66
USA	Michael Racy	Sukhoi 26M3	RA-00665	2424.47	3390.66	5815.13	74.17
USA	David Martin	Extra-330SC	D-EXUS	2382.95	3272.64	5655.59	72.14
<b>17324.23</b>							<b>73.66</b>
4	<b>GREAT BRITAIN</b>						
GBR	Gerald Cooper	CAP 232	G-OGBR	2544.12	3325.86	5869.98	74.87
GBR	Mark Jefferies	Extra 330SC	G-IIHI	2499.67	3350.66	5850.33	74.62
GBR	Tom Cassells	CAP 232	G-IIIC	2167.68	2722.78	4890.47	62.38
<b>16610.78</b>							<b>70.62</b>
5	<b>SPAIN</b>						
ESP	Castor Fantoba	Sukhoi 26	EC-HPD	2355.30	3387.91	5743.21	73.26
ESP	Juan Velarde	Sukhoi 26M	EC-HYU	2379.82	3165.48	5545.31	70.73
ESP	Jorge Macias Alonso	Staudacher S300	N540SE	1913.06	2697.00	4610.06	58.80
<b>15898.57</b>							<b>67.60</b>
6	<b>CZECH REPUBLIC</b>						
CZE	Martin Sonka	Sukhoi 31M	OK-HXB	2090.01	3077.48	5167.49	65.91
CZE	Jan Adamec	Sukhoi 31M	OK-HXB	2119.22	2913.99	5033.21	64.20
CZE	Jan Rozlivka	Sukhoi 31M	OK-HXC	2349.13	2660.66	5009.78	63.90
<b>15210.49</b>							<b>64.67</b>
7	<b>GERMANY</b>						
GER	Martin Albrecht	Extra 300SHP	D-EXMT	2181.18	2997.30	5178.48	66.05
GER	Alex Stegner	Sbach-300	D-ETOJ	2269.10	2898.08	5167.18	65.91
GER	Heike Sauels	Extra 300SP	D-EXHS	2165.27	2572.36	4737.63	60.43
<b>15083.29</b>							<b>64.13</b>
8	<b>SWITZERLAND</b>						
SUI	Pierre Marmy	Sukhoi 26M	HB-MSO	1845.78	2460.67	4306.45	54.93
SUI	Hanspeter Rohner	CAP 232	F-GXCP	1675.45	2577.49	4252.95	54.25
SUI	Gabi Schifferle	Extra 300S	N600YS	1756.45	1372.69	3129.14	39.91
<b>11688.54</b>							<b>49.70</b>

### Program 4 • The Final Freestyle

Rank	Nat	Pilot	Aeroplane	Reg'n	Totals	O/all %
1	FRA	Renaud Ecalle	Extra 330SC	F-TGCI	3223.33	80.58
2	LIT	Jurgis Kairys	Sukhoi 31M	LY-LIK	3175.54	79.39
3	GBR	Eric Vazeille	CAP 232	G-OGBR	2905.40	72.64
4	ESP	Ramon Alonso	Sukhoi 31	EC-HGL	2899.66	72.49
5	RUS	Mikhail Mamistov	Sukhoi 26M3	RA-00665	2861.73	71.54
6	RUS	Oleg Shpolyanskiy	Sukhoi 26M3	RA-00665	2838.56	70.96
7	FRA	Francois Le Vot	Extra 330SC	F-TGCJ	2830.16	70.75
8	FIN	Sami Kontio	CAP 232	OH-SKA	2732.12	68.30
9	CZE	Martin Sonka	Sukhoi 31M	OK-HXB	2674.96	66.87
10	GBR	Gerald Cooper	CAP 232	G-OGBR	2568.53	64.21
11	USA	Hubie Tolson	Sukhoi 26	RA-3456K	2554.97	63.87
12	GER	Martin Albrecht	Extra 300SHP	D-EXMT	2477.46	61.94
13	GER	Alex Stegner	Sbach-300	D-ETOJ	2444.82	61.12
14	USA	David Martin	Extra-330SC	D-EXUS	2427.94	60.70
15	BRA	Adilson Kindlemann	Extra 300S	N8JX	2253.86	56.35

*Final Results and Standings continued on page 27*



The logo features the letters "USA" in red, with a white star in the center of the "U". A blue swoosh starts from the top of the "U" and curves down to the "A". Below "USA" is the word "Unlimited" in orange script, and "Aerobic Team" in blue capital letters.

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# WAC 2009

*Mike Heuer, President of CIVA*

## Triumphs and Tragedy: The contest to remember

Silverstone. It is the name for the 2009 World Aerobatic Championships (WAC), and it will be forever etched in the minds of attendees who saw it live, and aerobatic enthusiasts who watched it unfold from afar. For me, the name Silverstone will always generate a mix of emotions: admiration for those who fly and organize, compassion for those who suffered so much loss, and a strong sense of what the aerobatic community is all about. The glory of winning and the spectacular skills of the pilots aside, Silverstone was all that we had hoped it would be, and something we never imagined.



The top three pilots at WAC – Krotov, Ecale, and Le Vot

Who would ever have foreseen the loss of the first WAC competitor since 1960, IAC president and US Team member, Vicki Cruse? What I had originally planned to write changed in an instant. Let me provide some background, and recount the days of the competition leading up to the accident that changed it all.

#### **The Days of Preparation**

The first order of business at the WAC was the CIVA Judging Seminar. Graham Hill reviewed the CIVA Judges Recurrency Course—a set of questions on the latest rules much like IAC's own annual test for judges. Graham and John always strive for the best and most consistent judging, and this seminar was very productive. The FairPlay System (FPS) is the statistical scoring system now used at all FAI Aerobatic Championships, and judges received their analysis between flight programs so they could get feedback on their performance. All team managers received a complete package of judging analysis after the conclusion of WAC.

Each judge signed a letter of agreement, certifying his currency, understanding of his international role, and agreeing to not be prejudiced toward any pilot of any nationality. This has been a personal crusade of mine for several years as I remember the “old days” when judges were considered a part of their country's national team, and often judged to benefit their own pilots. Judges who do not perform well will receive poor RIs (Rank Indexes), how a judge ranks a pilot in comparison to the rest of the panel. This is the main measure of judge performance. We used RIs for judge selections this year and will use them again in the future.

## **QinetiQ**

The first day was also my first look at the QinetiQ system, an electro-optical tracking system for box infringement penalties or “out-calls,” as well as height measuring. QinetiQ (pronounced “kinetic”) is a British company that principally caters to the defense industry. Their system was adapted for competition aerobatics use by software designer Stephen Madle, British Aerobatic Association member, and team member working on site. The computer monitors show the aerobatic box from different perspectives. A yellow ribbon on the screen depicts the aircraft’s flight path. The ribbon turns red when the aircraft departs the box. The system was tested considerably prior to the event. It is incredibly accurate. On one occasion Stephen remarked, “He was out by 87 centimeters.”

Altitude penalties were also assessed using the QinetiQ system. The monitors and computers were located in a small tower near the runway and the radar tracking head—part of a small mobile unit—was nearby. The “outs” were tracked and recorded in the tower and relayed to the chief judge’s station. They were recorded on penalty work sheets, and then delivered to the scoring office.

For the first time in my 44 years of attending aerobatic competitions, we had a totally accurate and reliable way of not only recording box infringements, but also measuring height accurate to the centimeter.

When someone asked how accurate the QinetiQ system is, someone answered that perhaps the discussion should really be on what part of the aircraft the radar was tracking—the tail wheel or the spinner!

One of the offshoots of this is a pilot can now be called out “high”—a rare occurrence in all of the competitions I have attended throughout the years. One pilot received “high” height penalties four times during his flight. I am sure he was not happy, yet the fact remains, these penalties are called for in CIVA rules. Pilots seeking some sort of energy and height advantage were not be able to do so “free of charge” in this competition.

At the end of the WAC, the scoring system reported there were 15 low calls, 21 high calls, and 149 box outs assessed using the QinetiQ system.

## **The Opening**

On Wednesday, August 19, all teams reported for the general briefing. Opening ceremonies were held that night with the fanfare for which the British are famous. The competition was declared “open” by this author as the senior FAI official present.

Here’s how we stood at the opening ceremonies: 60 pilots representing 18 countries. Of these 60, eight were women (two from France, two from Russia, two from the U.S., one from Germany, and one from Switzerland).

It was good to see some “new blood” in the sport. One of the new pilots making her debut at WAC was French team member Aude Lemordant, flying a CAP 232. Aude is 27 years old. She’s a pilot for Air France on the Airbus, and flew her first aerobatic competition in 2005. There were many young pilots at this competition—or perhaps they are just looking younger! In any event, there were many French pilots younger than 30, and young new competitors from other countries as well.

*On one occasion Stephen remarked, “He was out by 87 centimeters.”*



**Hubie Tolson and Goody Thomas service their Sukhoi after a competition flight**



**David Kaftan and Alena Kaftanova measure the wind**

At the opening, it appeared this would be the first time in several WAC events that the FAI Challenge Trophy would be presented to a winning women's team, as there have been too few female entrants in recent years to declare a women's team championship. The woman who wins the Women's World Champion title takes home the Royal Aero Club Trophy.

It was very gratifying to meet pilots from around the world, including Ireland, Slovenia, Brazil, and Portugal, as some of these nations have never been represented at a WAC before. The total turnout was better than anticipated, especially in view of world economic troubles.

### **Communicating and Using Technology**

Communication is often overlooked or forgotten at championships. Obviously, it takes time and effort to do it properly. The Silverstone event established a "gold standard" for communication, with new ideas and various methods and equipment used. All team managers, contest officials, and organizers were issued disposable UK mobile phones that came pre-coded with all of the key contest phone numbers. Motorola radios were also in use. To communicate even more effectively, the organizers used text messaging to notify everyone of important news. They were able to send messages en masse using software in the IT office, headed up by Peter Rounce.

The announcements sent via text message were also posted on the Twitter website, so even those that weren't issued mobile phones had access to important information.

From the jury, we also used e-mail more than ever before. We sent team managers "Jury Policy Letters" that discussed jury decisions and our interpretations of the rules. These documents were created to head off protests, as well as answer and clarify questions brought to us by pilots and team managers.

In addition, the WAC organization had three websites: one for public use; one for pilots, team members, and officials; and a blog site where the contest director posted documents and updates.

The use of the Internet and e-mails was made possible by the excellent WiFi coverage at the entire contest site. Pilots could view their results and their individual score sheets on [www.civa-results.com](http://www.civa-results.com). The scores were posted on the website from the scoring office as frequently as possible throughout the event.

After the loss of Thursday due to bad weather, the first pilot in Programme Q (the CIVA Known program), finally launched in his Sukhoi 31. That pilot was Martin Sonka of the Czech Republic. It was 12:44 on Friday, August 21, and the contest was underway.

### **Saturday, August 22**

We awoke to a beautiful morning with blue skies, some high clouds, and winds well within limits. The warm-up pilot, Francois Rallet of France in the Extra 330SC, took to the air at 09:00 and his was the only warm-up before the resumption of Programme Q to save time. The first competition pilot was Mikael Brageot of France flying the CAP 232.



Courtesy Equipe de Voltige

From the cockpit of a French Extra 330SC



The Russian team

The organizers' goal, with flight director Cassidy pushing very hard, was to get Programme Q finished.

Two important people on that day, and all days, were Alena Kaftanova and David Kaftan, our wind observers from the Czech Republic. They are familiar faces at European competitions. They're the ones usually running the weather balloon operation and they are extremely proficient. Balloons are launched at 30-minute intervals, unless weather is rapidly changing, which requires more frequent launches—though the time required to take the wind readings precludes much tightening of the time. Wind is always of great concern to pilots. Team managers and the organizers sent the wind information out via text message to all of the managers after the readings were taken. With aircraft and the briefing tent somewhat spread out, this turned out to be very helpful. In addition, the latest information was also posted right at the runway starter's position near the takeoff point.

Traffic control was done with flags. Red for stop, white for ground movement, and green for clearance to take off. Two Americans, Bob Harris and Patty Anderson, were in Silverstone and working the take-off start point near the runway and launched the aircraft under Alan Cassidy's overall direction. Patty and Bob had met the British at AWAC in Pendleton, Oregon in 2008 – and enjoyed the international aerobatic family so much they made the



Steve Green, WAC 2009's Contest Director – he had the key to every office on the airfield

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commitment to come and help at Silverstone. Robbie Sturm accompanied them, and also helped on the flight line, in the contest office, and scoring office.

A display in the small tower kept pilots advised of the flight order numbers. The tower displayed the pilot number up. In the photo accompanying this article, the orange color means a "free break" is allowed in the sequence due to the cloud level.

Clouds moved in quickly, at about 400 meters, and flying was discontinued. The first competition pilot did not complete his flight and a jury flight was launched with Osmo Jalovaara and Alan Cassidy in his Pitts S-2A, to verify the low cloud. After a couple of hours, ceiling began rapidly rising, and flying resumed just after 11:00.

Because the weather had been marginal, we were concerned whether the French pilot would find the ceiling sufficient. Eight-hundred meters (2,625 feet) are needed to fly with a break. Procedures can get quite cumbersome here if a pilot decides to abort the flight program. This requires the launch of the weather bird with jury member on board to verify the ceiling is below the minimum. If it is not, the pilot is not entitled to repeat the flight.

At WAC 2009 though, there was one big difference. Since height was being tracked by the QinetiQ system, it was easy to verify if the pilot was accurate when he called in cloud levels on the radio. For example, when Brageot flew prior to the Q sequence, he reached an altitude of 914 meters and the highest point during the sequence was 780 meters. So pilot reports were easily verified, a remarkable system. The contest continued.

Everything came to a halt just before noon on Saturday.



Courtesy Equipe de Voltige

French Team pilots Renaud Ecale, Pierre Varloteaux, and Francois Le Vot

Courtesy Equipe de Voltige



French team aircraft at home base

Vicki Cruse lost her life during her flight of Programme Q at Silverstone. She was flying a borrowed Edge 540. The accident occurred at about 11:57 during the fifth figure of the Known. The Silverstone emergency response teams were at the accident site in a matter of minutes. The figure is a fairly simple one for an Unlimited pilot and was easy for a pilot of Vicki's skill and experience. The figure calls for a 1-1/4 snap roll on a vertical downline with pull to upright. The aircraft never stopped rotating until it hit the ground. To date, we have no news on the cause and cannot speculate. But to all of us on site, it was unbelievable.

Flying was canceled and a meeting of the team managers was scheduled for Sunday at 10:00 to discuss whether or not the Championships should continue, and if so, which flight programs would be flown.

This was a tragedy on so many levels...

Vicki Cruse was president of the IAC and a member of the US Team for the fourth time. An extremely proficient and skilled pilot, she had previously won the title of US National Aerobatic Champion. She was also a passionate advocate for the sport and brought many new people into aerobatics. I know that many of you have enjoyed her articles in *Sport Aerobatics* as much as I have.

It has been a difficult time for the sport. Chandy Clanton, a former US Team pilot, died in a practice accident just a few weeks before Silverstone. Svetlana Fedorenko, a member of the Russian Team who had last flown at an FAI Championships in 2006, also lost her life just prior to WAC in a training accident. And it was not long after the 2005 WAC in Spain that Marta Meyer was killed in a practice accident. The sport has been hit with several tragedies in a very short time. For those of us at Silverstone, it was difficult to bear—to lose another friend, a colleague, a teammate, a fellow officer, and a superb pilot.

#### **What to Do Next**

The team managers held a meeting, followed by a meeting of the international jury and the officers of CIVA. The team managers unanimously agreed to continue the World Aerobatic Championships as a tribute to Vicki Cruse. She would most certainly have wanted us to continue; there is no doubt in my mind.

The championships carried on. The organizers, particularly Steve Green and Alan Cassidy, had been liaising with Silverstone officials and providing their input to the international jury on the conduct of the competition from that point on. Decisions were made by the jury and were explained in another Jury Policy Letter that evening.

Everyone was under stress, and sometimes that stress does not manifest itself until well after a tragic event or incident occurs. To fly a Free Programme next, which pilots have carefully prepared for and practiced, would be much less stressful, and therefore safer, than going directly into an Unknown. In our view, this was our most important priority—to conduct a championship that was stable, predictable, and what competitors expect. Rules changes or adjustments only destabilize an event, and create a less safe environment.

Along these same lines, there were no changes in other rules. All meteorological limits were observed. Our operating procedures stayed the same. We did not relax or waive



**Castor Fantoba of Spain**



**Cockpit of Renaud Ecale's Extra 330SC**

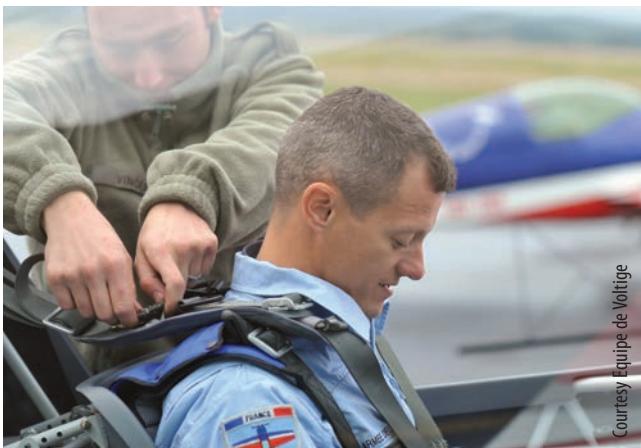
*... this was our most important priority; to conduct a championship that was stable, predictable, and what competitors expect.*

**WAC  
2009**



Courtesy Equipe de Voltige

Renaud Ecalle obliges a young fan



Courtesy Equipe de Voltige

Francois Le Vot of Team France

any rules and, therefore, continued to use what we have in the FAI Sporting Code as our guide. This lessened the chance of “unintended consequences” and a stable, safe atmosphere.

I stated the following in my letter to the team managers:

*“Ladies and gentlemen, I know there are probably as many ideas out there on what could be done as there are people. But it is time to get on with the Championships and let the organizers continue to do the wonderful job they have so far in running this competition.*

*I have been honored to work with everyone here and I ask you to give them your continuing support and understanding. Their job is difficult and exhausting but they are totally dedicated to your safety, to the completion of this Championships, and the best competition possible.”*

#### The Contest Continues

Flying resumed on Monday, August 24, close to schedule. Richard Pickin, one of the warm-up pilots from the UK, flew his CAP for the judges, drawing the low lines for them. Finally about 13:17, flying at the 25<sup>th</sup> World Aerobatic Championships started up once again with the flight of Alex Leboulanger in his CAP 232. We started flying with a weather break that lasted all day. As luck would have it, another weather hold occurred late in the afternoon. There had been a cold front over the UK, which refused to move through. One of the British remarked to me, “If you are disappointed with the weather, just wait... it will change.”

US Team pilot David Martin was the first American to fly after Vicki’s accident. Another American pilot, Michael Racy, was in the air when the weather turned bad again and the contest was put on hold. Michael had reported the ceiling at just over 500 meters. It had turned a bit cold and windy.

WAC  
2009

It was on this day that Tom Cassells of the UK had a technical abort and it was almost an identical problem to the French pilot. The wing root fairing (toward the leading edge) came loose. The Technical Commission Chairman, Mark Davies, had it fixed very quickly but I could see the disappointment in his face as he sat in the cockpit.

After further delays, Programme Q wrapped up on Tuesday, August 25. Renaud Ecalle (France) was the winner in the Extra 330SC. Francois Le Vot (France) was in second place, with Alexander Krotov (Russia) in third.

A word about Renaud and the French Team: These are tough, dedicated, and well-trained pilots who are admired by everyone in the international aerobatic community. Their trainer is Claude "Coco" Bessiere, a former World Aerobatic Champion, and no doubt one of the top three coaches in the world. The French Team is like no other in the respect that it is a mix of military and civilian pilots. The Extra 330SC that Renaud flies is owned by the French Air Force. He is an active duty French Air Force officer and pilot. No other aerobatic team enjoys this level of government support. Undoubtedly, the very best French Air Force pilots are chosen for this assignment—one any military pilot would covet—and then with the best aircraft and training, they consistently win. No surprise here. That said, they deserve every medal they win. They are very good aviators.

It was also good to see Alexander Krotov back on the scene and doing so well. He was badly injured in an accident at an air show in Japan in 2003. He was not expected to survive. There he was in Silverstone, racking up a bronze medal in the Q. Welcome back, Alexander!

WAC is full of these kinds of stories, which is perhaps why many of us are so drawn to it.

With the shortened schedule and the decision to not permit flying on most of the following two days of WAC, Programme Q took on more importance at WAC. It appeared at that point it would most certainly count toward the final results. Again, here is where CIVA rules depart from IAC rules. Programme Q, the Known,

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Courtesy Equipe de Voltige

#### French Team Extra 330SC



**International Jury members Bob Chomono (France), Mike Heuer (USA), and Osmo Jalovaara (Finland)**

is called "Q" because it is regarded as a qualification flight. Pilots warm up, the judging panel is thoroughly refreshed and ready to go, and the contest organization's kinks are worked out. This has worked well in the past. However, with weather problems almost always plaguing contest sites (with the peculiar and strict CIVA rules that are in place regarding weather limits), it was decided a few years ago to include Q in the final results if only Programme 1 could be completed. A count of the days and hours left made this a near certainty.

Nevertheless, Alan Cassidy and his crew pulled out all the stops in the remaining time to complete as much as possible. But in the end, there were not enough hours in the day. On Friday, August 28, the decision was made to call it complete. All pilots had flown the Known and Free programmes.

It should be noted that Wednesday, August 26, and part of Thursday, August 27, were canceled. After the accident, Silverstone did not want any flying to take place when events on the circuit were taking place near or under the box. They rearranged schedules as much as possible, moved events to the north circuit, and called hundreds of people to make it work but it still was not possible to fly on those days. This cost us the necessary time to fly an Unknown. Only four Unknown flights were completed by Friday evening.

Backing up a bit, though everyone knew it would be very tight with time, we did go through the lengthy and arduous procedure for selecting the 1<sup>st</sup> Unknown just in case. Time was a problem as the clock was ticking and if we were not to lose any valuable flying time, a sequence would have to be finalized in time to give pilots 18 hours before they flew Programme 2, the 1<sup>st</sup> Unknown. Teams submitted seven sequence proposals. This was far fewer than what we usually receive at a WAC, and even more surprising in view of the many countries represented.

As it turned out, we went through four versions of the 1<sup>st</sup> Unknowns before we selected one that elicited the fewest complaints. This is a difficult process for the inter-

national jury as we can only accept complaints from team managers that are based on "safety" reasons. We have to sort out which are valid safety concerns and which complaints are being made for competitive reasons. Since every pilot on the airfield has a different idea on what a good Unknown is, the input can be endless. Time and time again, "safety" is cited as a reason for rejecting an Unknown when a team manager is really upset about the fact you did not choose his sequence. But if there is the slightest doubt, we reject the sequence and move on to the next. This is what happened in Silverstone.

Unfortunately, we had to call it quits after only four flights in the 1<sup>st</sup> Unknown. Very dark clouds rolled in, rain threatened, and we had to shut down flying. In the jury's office, Steve Green, Alan Cassidy, Bob Chomono, Osmo Jalovaara, and I met for the final meeting of the day. We decided, after looking at the available time left, that it was impossible to finish the first group of pilots in the 1<sup>st</sup> Unknown. Without this group completed, the program itself would be incomplete. Therefore, the contest was declared finished, with Programme 4 (the "4 Minute") remaining for the last day, August 29, and the results validated. We had all pilots fly Program Q and 1 and this was enough for the World Aerobatic Championships to be a valid competition.

We now had a new World Aerobatic Champion: Renaud Ecale of France. Renaud has had an outstanding record this year. He won the World Air Games in powered aerobatics in June, with gold medals in both the Q and the Free. It was a well-deserved victory for this talented Frenchman. He was presented with the famous Aresti Cup that afternoon.

Elena Klimovich of Russia won the Women's World Aerobatic Champion title for the first time. She came in ninth in the overall standings. A veteran of aerobatic competition and a dedicated member of her team, she turned in an outstanding performance. Elena works tirelessly on behalf of her team, represents Russia at CIVA, and has generated dozens of rules proposals over the years.

Team results were: (1) France, (2) Russia, and (3) United States. These teams were "combined" and consisted of both men and women pilots. This occurs when too few women are present to declare a team championship for that gender. Sadly, with the loss of Vicki Cruse, there were not enough women's teams to declare a championship—another one of those things that no one ever foresaw happening. The FAI Challenge Trophy remains in storage for another WAC and with all of our hopes there will be more women entering the sport and competing in team slots in the years ahead.

### **The Last Day and Night**

The "classical" competition was now over. But Program 4, the "Final Freestyle" or the "4 Minute" (a name coined for this flight when it was to be precisely four minutes in length) remained. August 29 was Silverstone's public day. Program 4 has always appealed to spectators and this last day was also being broadcast live on the internet at [www.airsports.tv](http://www.airsports.tv). Since Program 4 is a special and separate trophy event, rules were changed for 2009 to permit "drop-ins." Three pilots entered this event that had not flown in the classical flight programs: Eric Vazeille, Jurgis Kairys,



**WAC Flight Director Alan Cassidy with Women's World Aerobatic Champion Elena Klimovich of Russia**

and Ramon Alonso. Vazeille and Alonso were both former world champions and Kairys is a specialist in this flight. After it was all said and done, however, World Champion Renaud Ecale again continued his sweep of the gold and won this flight as well. But it was good to see these "Old Knights" in the air.

The winner of the Final Freestyle normally receives the Manfred Stroessenreuther Trophy, but the trophy has not been seen since the closing ceremonies at the World Championships in Granada, Spain in 2007. It is presumed stolen. There are plans to replace it.

To open the last day's activities, the US Team paid tribute to their team member who lost her life with a traditional "missing man" formation. As the formation flew by, a moment of silence was observed and Taps was played. It was a very moving and emotional moment for all of us. The fly-by took place at 11:00, which is the traditional time in Britain for such observances to be made. The large crowd of spectators was totally silent and my respect for the British grew a hundredfold after this wonderful tribute to Vicki.

### **The Future**

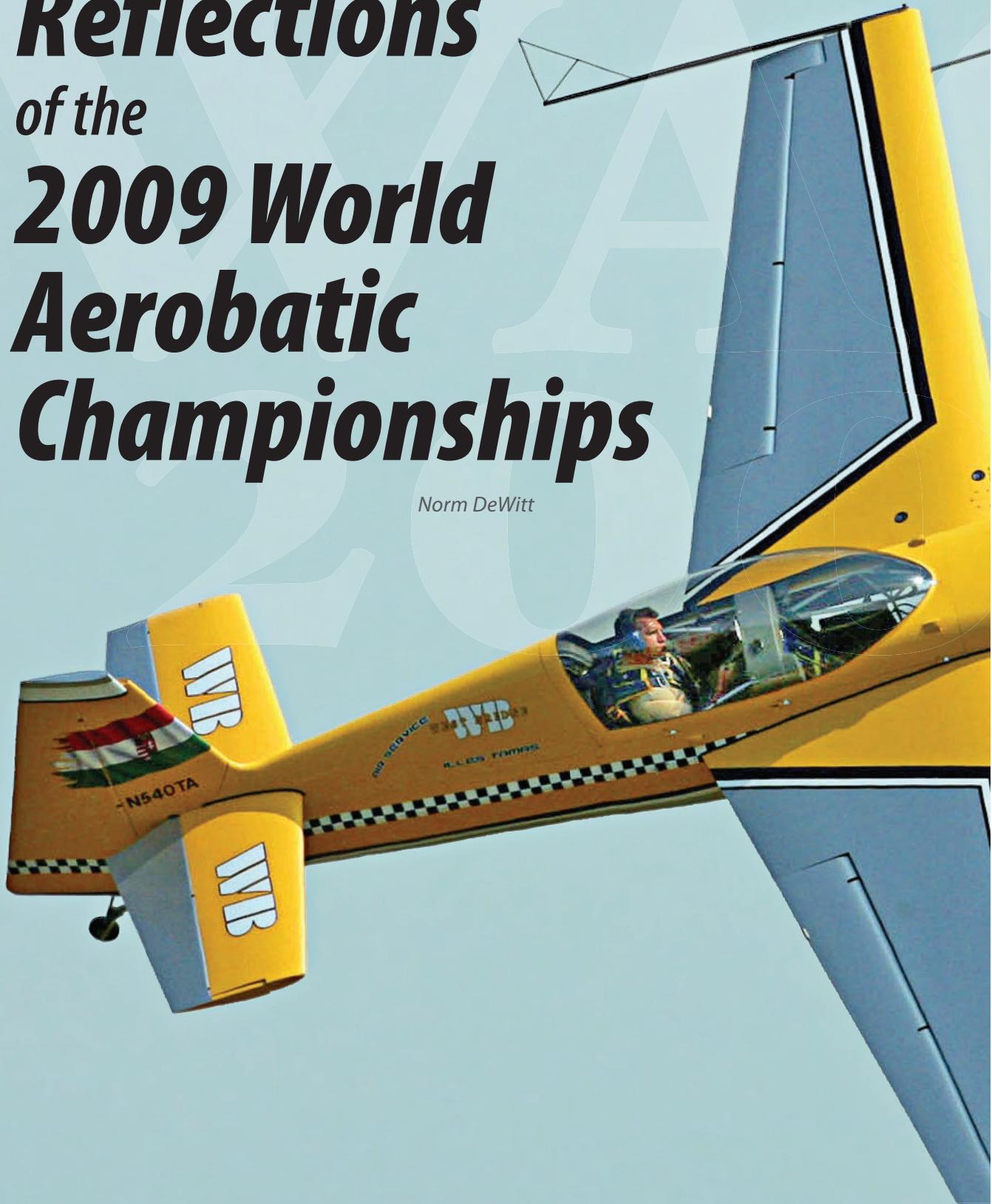
On Sunday, August 30, we all began our treks home to family and familiar surroundings. On the drive to Heathrow and the long flight home to the U.S. from London, many thoughts swirled through my mind...

I was constantly reminded that the people are much the same—the deep love of aviation and aerobatic flying is there, just as it was decades ago. That dedication is without national borders and it is the bond we share with our colleagues and friends from nations all over the world. It keeps us all going, and airplanes flying in the box are the best tribute we can pay to those people who are no longer on the flight line with us. ☺

*Photos by Mike Heuer and LG Arvidsson*

# *Reflections* of the **2009 World Aerobatic Championships**

Norm DeWitt





Tamas Illes flying the Edge 540T.

Courtesy Mike Heier

*As I write this article, I am at flight level 400, over the North Atlantic Ocean in an American Airlines Boeing 777. We passed the southern tip of Greenland about an hour ago. Now, the eastern coastline of Labrador is visible from the window. From the moving map, it looks like we will be "feet dry" somewhere north of Goose Bay and south of Ungava Bay.*

*It looks very desolate. There are 1,608 miles until Chicago, and the airliner is making a groundspeed of 513 miles per hour. We have three hours left on this eight-hour flight...*

The 2009 World Aerobatic Championships (WAC) provided many highlights, and one tragic low, the loss of team member Vicki Cruse. She was a writer, an editor, a business professional, a focused competitor, a dancer, a Reno racer, and a leader, to name a few of her accomplishments. Had this accident not occurred, there is no doubt she would have accomplished even more. One that was on the horizon was a shot at driving an F-104 on a dry lake bed to set the women's land speed record. She was an incredible woman, and she will be greatly missed.



Flowers at Vicki's crash site.

The U.S. team arrived in England on August 11, 2009. We headed for our practice location, Dunkeswell Aerodrome. Dunkeswell is about 20 miles from Exeter, which is where our hotel was located. All of the team was together in camp with the exception of Michael Racy. Michael has a long-standing friendship with the Russian team; he shares one of their Sukhois when he is in Europe. In the winter, several of the Russians travel to Tucson, Arizona, to train with Michael and fly his plane. It has been a mutually beneficial relationship.

The first evening in Exeter we had dinner at an outdoor restaurant in the city center. The cathedral pictured below was visible from our table. The evening was warm and pleasant. Short sleeve shirts were in order.



The cathedral in Exeter.



The team at a restaurant in Exeter.

It was most interesting trying to drive from our hotel in Exeter to the airport every morning. Besides learning to drive on the left side of the road, we had to take some alternate routes due to a road closure on the main route to Dunkeswell. It's an understatement to say that roads are narrow in the English city. In some cases, the roads were only one-car-width wide, with tall hedges on both sides blocking visibility around bends, as well as farm vehicles and lorries heading toward us in the opposite lane. We were constantly on alert.

*"By the way, the jumpers landed in the center of our aerobatic box."*

At the aerodrome, there was a lot of aviation activity during the afternoon. There were several light sport airplanes based there, and they flew even with the overcast that grounded the team.

There were two young pilots, Rob and Chris, in the building next to us. They sold rides to the English coast in a 1936 Gypsy Moth. The plane has a tail skid and no brakes. It departs on the runway and lands on the grass between the runway and their office. Their short final was almost over our heads. Then, there were a variety of general aviation aircraft, such as 150s, 172s, 177s, and Archers that were being used as trainers.

If that wasn't enough, there was a parachute jump operation lifting jumpers in a King Air. By the way, the jumpers landed in the center of our aerobatic box. They provided a two-minute warning, we vacated the box, they landed, they collected the dead, and aerobatics resumed. It was definitely a three-ring goat rodeo. The U.S. FAA would have had a heart attack. Fortunately, everyone was safety conscious, and we did not have any conflicts.



Dunkeswell Aerodrome

On August 17, 2009, a Monday afternoon, the team successfully and safely relocated from Dunkeswell to Silverstone, England. The pilots in planes made the trip in 40 minutes, while those of us on the road took slightly over three hours. The pilots were met at Silverstone and taken to the hotel, which was very nice.



Jeff Boerboon, our highest-scoring U.S. pilot.

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*Owned and operated by Debbie Rihn-Harvey*

After being asked to stop flying in Dunkeswell due to noise complaints, Contest Director Steve Green quickly went to work to find an alternative site for practice. He got permission to use a former World War II field south of Peterborough. All of the fields we have flown from are former Army Air Corps bases with a lot of history. So our plan was to fly Tuesday morning practice flights in the Silverstone box, then fly to Conington Aerodrome for the afternoon practice flights.

The morning practice flights went on schedule for everyone, except Debby. Debby shared Hanspeter Rohner's plane, and the two of them were practicing at another field. Debby's Silverstone practice time was late on Wednesday. By noon, we were ready to leave for Conington, with Debby joining Hanspeter. Conington is about 30 miles east of Silverstone, or 15 minutes by air. It was about an hour-and-a-half by car. We arrived and began the practice rotation, after a briefing from Julie Churchill, the acting airport manager.



**Julie Churchill at Conington Aerodrome.**

Three flights into the rotation, Debby called with a rudder pedal problem in the CAP 232 at the airport. The problem grounded the plane. Our unflappable team mechanic, Len Rulason, left immediately to fix Hanspeter's plane. Twenty minutes after he left, Vicki started up for her flight. Upon her run-up, she discovered a dead left magneto. (This violated the Chenoweth Second Axiom of Flight: "Never do a mag check away from your home field.") Vicki's flight was scrubbed. Fortunately, there was a mechanic on the field. The fix to Vicki's engine problem took much longer to diagnose and fix than expected. It turned out to be a defective SlickSTART. It was replaced, and all was well.

All of our team members flew their practice times in the contest box and were ready to begin the contest flights. The Q Program began on Thursday, August 20, 2009. When the Q results were in, four of our men were among the top 15 pilots. Jeff Boerboon had a beautiful flight and finished in 4th place. Goody Thomas finished in 9th place, Michael Racy in 14th, and David Martin in 15th. It was a very good start for the team considering the stress everyone had been under.

As all of the competition pilots know, boundary judges are guarding the corners of the aerobatic box watching for and calling outs. The line judges, in addition to scoring the figures, are looking for low calls. At this contest, arrangements had been made with a company called QinetiQ (pronounced "kinetic") to electronically monitor all of the boundaries. The system uses video, radar, and microwave technologies to determine the position of the aircraft to within centimeters. It filmed each flight, produced a trace of the flight path, and showed the location of the aircraft relative to the box. It even called lows and highs, which was interesting. Not all that much was said about the system, but you have to know that it can track inbound weapons systems with a high degree of accuracy.



Courtesy Mike Heuer

**TheQinetiQ boundary monitoring system in use.**



*"A well-executed missing man formation is always an emotional experience, but this formation was the best this author has ever witnessed, and the most emotional."*



**Debby Rihn-Harvey prepares for her contest flight.**

In the Q Program, Goody Thomas had a very good flight. It was aggressive, positioned right in the judges' faces, and at the bottom of the box. Later, we learned that Goody had been 3 meters high on one figure, 1 meter high on a second, and 86 centimeters on a third. In his Freestyle, he wasn't so lucky and earned 1,090 penalty points.

The next program was the Freestyle, or Program 2 in CIVA terminology. Unfortunately, Goody dropped to 47th place in the program due to the penalties mentioned above. However, Michael finished 5th in the program, followed by Jeff in 15th, then David in 16th, and Hubie Tolson had a strong flight and locked in at 20th place.

Normally in the WAC, the Q Program scores are thrown out, and only Programs 2, 3, and 4 scores count. Due to weather issues, no-fly days, and other delays, the contest jury was forced to determine the winners based

on the Q and Program 1 results. Even with cuts in the pilots, Program 2 and the first Unknown would not have been completed. With all of the scores finalized, the top three teams were:

France – 17,991 points  
Russia – 17,761 points  
USA – 17,324 points

Jeff, Michael, and David were each awarded an FAI bronze team medal.

The individual men's medals were awarded to:

Gold – Renaud Ecale, France – 6,155 points  
Silver – Alexander Krotov, Russia – 5,952 points  
Bronze – Francois Le Vot, France – 5,947 points



**Alexander Krotov, Renaud Ecale, and Francois Le Vot receive their medals.**

Women's Gold – Elena Klimovich, Russia – 5,851 points  
 Women's Silver – Svetlana Kapanina, Russia – 5,841 points  
 Women's Bronze – Kathel Boulanger, France – 5,408 points



**Svetlana Kapanina, Elena Klimovich, and Kathel Boulanger accepting their medals.**

Saturday, August 29, 2009, the final day of WAC 2009, began with a missing man formation being flown in Vicki's honor. Robert Armstrong led the formation, with Goody Thomas on the left wing, Debby Rihn-Harvey as the missing man, and Jeff Boerboon on Debby's wing. The formation came in from the east and began a turn to the south in front of show center. Debby left the formation on cue, climbed, and headed west, while executing a series of very slow rolls. The rolls continued until Debby disappeared from sight into a cloud. A well-executed missing man formation is always an emotional experience, but this formation was the best this author has ever witnessed, and the most emotional.

After the classical programs were finished on Friday, our team won the bronze medals. Jeff Boerboon, David Martin, and Michael Racy were our top three pilots.

*"...the program that Renuad Ecale flew took the gold. This French pilot demonstrated, throughout his program, complete control of the aircraft in all attitudes and all speeds. It was the best flight I have witnessed."*

The Four Minute Freestyle followed. Fifteen pilots from 10 countries were selected for the event. As a first, three of the pilots came only for the program. They were Ramon Alonso, 2007 World Champion, from Spain; Yurgis Kairys from Lithuania; and Eric Vazeille representing Great Britain. There were many great flights, but the program that Renuad Ecale flew took the gold. This French pilot demonstrated, throughout his program, complete control of the aircraft in all attitudes and all speeds. It was the best flight I have witnessed.



Once again, Renaud Ecale won with an unbelievable flight. After watching, there was no doubt about his ability to demonstrate total control of his airplane in all attitudes and across the entire flight envelope. If you can find his flight on the Web, I highly recommend watching it.

Hubie Tolson and David Martin represented the U.S. team. They both flew well, with Hubie dead-sticking his recovery from a tail slide, but they finished down the list.

After the Four Minute Free Program, an air show began. One highlight was the flight of a Vulcan four-engine bomber. I have seen a Vulcan once before on static display at Castle Air Museum, but never in flight. It is a large graceful delta wing jet of early '50s vintage. The announcer said that it had been used during the Falklands War. What a sight. There was a two-ship wing walker display that was unique, and a homebuilt barreling around an aerobatic glider on tow. On the second pass, the glider executed a series of rolls behind the towplane while still on tow at about 100 feet AGL—nice!



**The Saturday audience at Silverstone.**



The 2009 WAC Judges and assistants.

Compliments must be given to Steve Green, the contest director, and his entire staff. This was one of the best-organized contests I have attended. Registration took about three minutes: there were three or four papers to sign, credentials were passed out, keys to rental cars were made available, and it was done. Each day began for the team managers and pilots with an 8:00 a.m. briefing. The briefings started on time, stayed to the important information, and the warm-up pilots were launched promptly at 9:00 a.m.

In summary, I would like to say that I was very proud of this year's Unlimited Aerobatic Team. They helped each other at the training camp and the contest. They came

together to support each other after Vicki's accident. They also helped others at the contest that didn't have teammates to lean on after the accident. They made individual decisions on whether or not to continue the contest and performed at the highest level in world competition. They represented themselves, the team, and America well. You, too, should be proud of these IACers.

Also, I wish to thank the team sponsors for all of their support in kind or in dollars. It helped reduce the expense to participate at the WAC. And special thanks to Berkley Aviation, The Pitstop, Silver Parachute Sales, Hooker Harness, LightSpeed Headsets, Oregon Aero, and Sky-Tec Starters. ☺

*"They represented themselves, the team, and America well. You, too, should be proud of these IACers."*



The 2009 U.S. Unlimited Aerobatic Team at the closing ceremonies  
(L to R): Hubie, Goody, David, Robert, Debby, Jeff, Michael, Norm

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## Comments from the Chairman of the British Aerobic Association and the Chief Judge:

**M**y participation as a very lowly volunteer at WAC 1970, the first WAC in England, was sheer happenstance. In 1986, the second British WAC, my employment as a corner judge was planned. When WAC came to the UK for the third time, this year, my involvement as chairman of the British Aerobic Association was utterly unavoidable! Hosting the WAC is a once-in-a-generation event here, not only because it takes that long to get around to hoping yet again for good weather, but also because of the enormous effort required from so many volunteer organizers. This 25th WAC was, even more than usual, a roller-coaster ride for all concerned, with a lot of ups and downs. In some ways this enhances the satisfaction of seeing it through to a successful conclusion, yet it also leaves many "what-if" questions hanging in mid-air. I'd just like to say, once again, thanks to all who contributed so much. You know who you are.

**Alan Cassidy**, Chairman  
British Aerobic Association



**M**y job was easy, made so by 33 judges, assistant judges and writers, including an extra pair of hands to monitor the QinetiQ electronic line judging system, which worked perfectly. Not one protest about box-outs highs or lows!

Although we had difficult terrain to get to our main southern position, and had to let everybody through gates that had to be kept locked, we always managed to start on time. We did not use the "Q" as a judges' training flight, because we had a number of flights arranged as part of a CIVA judging seminar before the "Q" started. For the first time at an international event, the judges could have their eyes tuned in before the start of the "Q."

**Graham Hill**, chief judge,  
25<sup>th</sup> World Aerobic Championships,  
Silverstone, United Kingdom

## WAC 2009 Official Results and Final Standings • Individual Results

Rank	Nat	Pilot	Aeroplane	Reg'n	Q #1	Free #1	Totals	O/all %
1	FRA	Renaud Ecalle	Extra 330SC	F-TGCI	2615.18	3540.08	6155.26	78.51
2	RUS	Alexander Krotov	Sukhoi 26M3	RA-00665	2589.71	3362.74	5952.45	75.92
3	FRA	Francois Le Vot	Extra 330SC	F-TGCJ	2602.43	3344.18	5946.61	75.85
4	RUS	Mikhail Mamistov	Sukhoi 26M3	RA-00665	2519.26	3404.39	5923.65	75.56
5	FRA	Pierre Varloteaux	Extra 330SC	F-TGCJ	2520.54	3368.22	5888.76	75.11
6	RUS	Oleg Shpolyanskiy	Sukhoi 26M3	RA-00665	2481.39	3403.24	5884.63	75.06
7	GBR	Gerald Cooper	CAP 232	GOGBR	2544.12	3325.86	5869.98	74.87
8	USA	Jeff Boerboon	Extra-330SC	D-EXUS	2562.02	3291.49	5853.51	74.66
9	RUS	Elena Klimovich	Sukhoi 26M3	RA-01059	2506.25	3344.85	5851.10	74.63
10	GBR	Mark Jefferies	Extra 330SC	G-IIHI	2499.67	3350.66	5850.33	74.62
11	RUS	Svetlana Kapanina	Sukhoi 26M3	RA-01059	2433.32	3407.95	5841.26	74.51
12	USA	Michael Racy	Sukhoi 26M3	RA-00665	2424.47	3390.66	5815.13	74.17
13	ESP	Castor Fantoba	Sukhoi 26	EC-HPD	2355.30	3387.91	5743.21	73.26
14	FRA	Mikael Brageot	CAP 232	FGMRG	2365.49	3356.66	5722.15	72.99
15	RUS	Victor Chmal	Sukhoi 26M3	RA-01059	2335.54	3329.68	5665.22	72.26
16	USA	David Martin	Extra-330SC	D-EXUS	2382.95	3272.64	5655.59	72.14
17	RUS	Andrey Bespalov	Sukhoi 26M3	RA-00665	2525.84	3067.15	5593.00	71.34
18	ESP	Juan Velarde	Sukhoi 26M	EC-HYU	2379.82	3165.48	5545.31	70.73
19	FRA	Kathel Boulanger	Sukhoi 26	HA-HUR	2265.85	3142.05	5407.91	68.98
20	FRA	Olivier Masurel	CAP 232	FGODV	2116.21	3252.93	5369.14	68.48
21	RUS	Anatoly Belov	Sukhoi 26M3	RA-01059	2321.05	2973.33	5294.38	67.53
22	USA	Hubie Tolson	Sukhoi 26	RA-3456K	2125.85	3125.63	5251.48	66.98
23	FRA	Alex Leboulanger	CAP 232	FGMRG	2217.61	3015.00	5232.60	66.74
24	GER	Martin Albrecht	Extra 300SHP	D-EXMT	2181.18	2997.30	5178.48	66.05
25	CZE	Martin Sonka	Sukhoi 31M	OK-HXB	2090.01	3077.48	5167.49	65.91
26	GER	Alex Stegner	Sbach-300	D-ETOJ	2269.10	2898.08	5167.18	65.91
27	FIN	Sami Kontio	CAP 232	OHSKA	2330.65	3272.16	5092.82	64.96
28	CZE	Jan Adamec	Sukhoi 31M	OK-HXB	2119.22	2913.99	5033.21	64.20
29	FRA	Aude Lemordant	CAP 232	FGODV	2039.28	2988.29	5027.58	64.13
30	CZE	Jan Rozlivka	Sukhoi 31M	OK-HXC	2349.13	2660.66	5009.78	63.90
31	BRA	Adilson Kindlemann	Extra 300S	N8JX	2135.93	2849.84	4985.77	63.59
32	GBR	Tom Cassells	CAP 232	GIITC	2167.68	2722.78	4890.47	62.38
33	USA	Debby Rihn-Harvey	CAP 232	FGXCP	2228.93	2608.91	4837.84	61.71
34	GBR	Kester Scrope	Edge 540	G-EDGY	2152.43	2630.63	4783.05	61.01
35	GER	Heike Sauels	Extra 300SP	D-EXHS	2165.27	2572.36	4737.63	60.43
H/C		Melissa Pemberton	Extra 300S	N600YS	1966.88	2733.52	4700.40	59.95
36	USA	Goody Thomas	Sukhoi 26	RA-3456K	2509.12	2183.37	4692.48	59.85
37	ESP	Jorge Macias Alonso	Staudacher S300	N540SE	1913.06	2697.00	4610.06	58.80
38	IRL	David Bruton	Sukhoi 26M	EI-EAI	2228.89	2348.05	4576.95	58.38
39	SLO	Peter Podlunsek	Extra 330SC	SS-DPS	2100.92	2436.21	4537.14	57.87
40	POR	Antonio Ideias	Extra 300S	N80LA	1786.16	2708.67	4494.83	57.33
41	ISR	Michael Golan	CAP 232	N862DM	1604.85	2885.88	4490.73	57.28
42	GBR	Nick Onn	Sukhoi 26M	G-XXVI	2293.13	2179.70	4472.83	57.05
43	GER	Hein Sauels	Extra 300SP	D-EXHS	2184.40	2244.41	4428.80	56.49
44	GER	Norbert Werle	Extra 300S	N600YS	1711.11	2655.16	4366.27	55.69
45	HUN	Tamas Illes	Edge 540T	N540TA	2058.37	2249.77	4308.14	54.95
46	SUI	Pierre Marmy	Sukhoi 26M	HB-MSO	1845.78	2460.67	4306.45	54.93
47	ESP	Anselmo Gamez	Sukhoi 26M	EC-HYU	2320.42	1970.25	4290.67	54.73
48	GER	Philipp Steinbach	Sbach-342	D-EIXA	2005.99	2275.72	4281.71	54.61
49	SUI	Hanspeter Rohner	CAP 232	FGXCP	1675.45	2577.49	4252.95	54.25
50	ESP	Sergio Pla	Extra 300	N8JX	1862.79	1525.96	3388.75	43.22
51	SUI	Gabi Schifferle	Extra 300S	N600YS	1756.45	1372.69	3129.14	39.91
52	ITA	Gian Franco Cillario	CAP 231	ICRIC	1629.70	1443.42	3073.12	39.20
53	CAN	Doug Jardine	Sbach-342	D-EIXA	1382.27	1146.25	2528.51	32.25
54	USA	Robert Armstrong	CAP 232	N3434F	1972.72		1972.72	25.16
55	CZE	Miroslav Cervenka	Sukhoi 31M	OK-HXC	1548.86		1548.86	19.76
56	ITA	Andrea Fossi	CAP 231	FGGYQ	1381.25	164.62	1545.87	19.72
57	SUI	Dominic Andres	Sukhoi 26MX	RA-3327K	1419.69		1419.69	18.11
58	SUI	Nils Hagander	Sukhoi 26MX	RA-3327K	1070.17		1070.17	13.65

## Consolidated Results • Women

9	RUS	Elena Klimovich	Sukhoi 26M3	RA-01059	2506.25	3344.85	5851.10	74.63
11	RUS	Svetlana Kapanina	Sukhoi 26M3	RA-01059	2433.32	3407.95	5841.26	74.51
19	FRA	Kathel Boulanger	Sukhoi 26	HA-HUR	2265.85	3142.05	5407.91	68.98
29	FRA	Aude Lemordant	CAP 232	F-GODV	2039.28	2988.29	5027.58	64.13
33	USA	Debby Rihn-Harvey	CAP 232	F-GXCP	2228.93	2608.91	4837.84	61.71
35	GER	Heike Sauels	Extra 300SP	D-EXHS	2165.27	2572.36	4737.63	60.43
H/C		Melissa Pemberton	Extra 300S	N600YS	1966.88	2733.52	4700.40	59.95
51	SUI	Gabi Schifferle	Extra 300S	N600YS	1756.45	1372.69	3129.14	39.91

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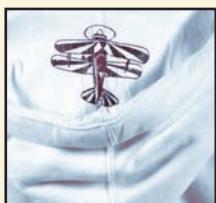
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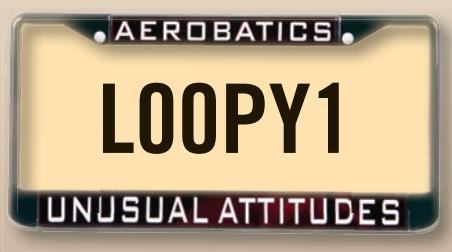
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# IAC Safety

By Stan Burks, IAC 431160

	2006	2007	2008	2009
<b>JANUARY</b>				
Mishaps	0	0	0	1
Fatalities	0	0	0	1
<b>FEBRUARY</b>				
Mishaps	1	0	0	0
Fatalities	2	0	0	0
<b>MARCH</b>				
Mishaps	1	1	0	1
Fatalities	1	1	0	2
<b>APRIL</b>				
Mishaps	1	0	1	4
Fatalities	0	0	1	3
<b>MAY</b>				
Mishaps	1	0	3	3
Fatalities	1	0	4	0
<b>JUNE</b>				
Mishaps	1	1	2	1
Fatalities	0	2	2	0
<b>JULY</b>				
Mishaps	0	1	3	4
Fatalities	0	1	2	4
<b>AUGUST</b>				
Mishaps	1	1	0	4
Fatalities	0	0	0	3
<b>SEPTEMBER</b>				
Mishaps	0	1	0	
Fatalities	0	1	0	
<b>OCTOBER</b>				
Mishaps	1	0	1	
Fatalities	1	0	2	
<b>NOVEMBER</b>				
Mishaps	1	2	0	
Fatalities	1	1	0	
<b>DECEMBER</b>				
Mishaps	1	0	0	
Fatalities	2	0	0	
<b>TOTAL Mishaps</b>	9	7	10	
<b>TOTAL Fatalities</b>	8	6	11	

I have updated the IAC safety statistics through August 2009. I am disturbed to note the total number of fatalities this year is 13, which is two more than last year. The total number of accidents has increased, but this is due to the fact that I am counting all accidents in my tabulation. If we remove all accidents except the accidents while maneuvering, the accident rate is on par with last year. I am still troubled with the number of fatalities, though.

While monitoring the National Transportation Safety Board accident reports I have made note of the experience level of those involved in the accidents. I would like to point out that many of these pilots are experienced in both competition and air shows. Please take notice that people who are both trained and experienced have accidents. On the other hand, there are those who would appear to be inexperienced and who are trying aerobatics close to the ground. If you are inexperienced and just starting to try aerobatics, please seek out a competent instructor and obtain training. It is also imperative to receive a complete spin training course. A low-level spin is not the place to be figuring out what to do next.

I would also like to point out two areas where we are all susceptible to accidents. First, be diligent in the airport traffic area. One accident this year occurred when an aerobatic airplane landed on top of a Cessna. The aircraft we fly usually have some type of blind spot; be cautious in the pattern and keep your head on a swivel. Also take into account that the aircraft we fly are usually higher performance than the local general aviation operators and may overtake the slower aircraft that may be in your blind spot. The second accident I want to mention involved fuel management. Please be sure you have enough fuel to make it to your destination with legal reserves. If not, land and get fuel. It is much better to land with the engine running than without. I only mention this to remind you that many of our aircraft have short legs and the temptation to push the envelope can be great.

I would like to remind you that I am not using the accident reports to embarrass or belittle anyone, but as illustrations for all of us to learn by. If you have any questions or comments, please feel free to contact me.

As always, please continue to train, plan, and practice. 

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# JUST for STARTERS

Greg Koontz

## Back to basics

**F**lying airplanes, it can be said, is an eye-and-hand skill; it's a simple matter of learning some coordination. Make the right moves and the machine does what you need it to do. My ol' dad was a corporate pilot and he used to say, "Pitch plus power equals performance." Perhaps that's an understatement, but it's basically true. Learn the pitch and power for the desired results, and the plane should deliver a predictable performance.

To me, flying a Piper Cub is an art. As I fly my little Cub, I feel for the loading on the wing and listen to the sounds of the engine as the prop labors to pull me along. The airspeed indicator and tachometer become secondary as I use attitude and the sound of the power to make the plane do what I want. The Cub seems to almost demand seat-of-the-pants flying. Listen, and it will tell you how to fly it.

Flying the high-performance planes can be a different story entirely. Years ago, when I first transitioned to jets, I had an awakening. My dad's little phrase about pitch, power, and performance suddenly came to light. Those who try to fly these high-flying, high-wing-loading aircraft up in the rare air of the flight levels by the seats of their pants are soon in for a hard lesson. It was like learning all over again. High-performance flying has a definite order—very Type A.

It is my own observation that the flight training I see happening today is very high-performance oriented. Instructors tend to instruct with jets on their minds. They teach procedures, numbers, and checklists. They throw

the student a book filled with old diagrams and explanations about aerodynamics, and tell them to give it a read. But when the student comes for the lesson, the preflight ground school is a list of procedures on how the little trainer is to be flown. These A to Z steps are to be followed to make the plane accomplish its turns, climbs, and descents. Once the students memorize these steps, they can then put them into action and make the plane fly.

The end result is a pilot. This is a person who follows a discipline of procedures and knows that if these procedures are followed correctly the desired results will happen. This pilot's comfort zone is then limited to what's been memorized. One day the pilot runs into an unfamiliar situation and the discipline is in trouble. Something as simple as moving out of a Cessna trainer into a Beechcraft Bonanza can become a huge problem, requiring a whole new set of procedures to memorize. The modern pilot isn't working off an understanding of the basic aerodynamics that makes most every airplane work. This makes tackling the new problem like trying to solve a calculus problem without a good foundation in algebra. If you don't have the steps to the solution memorized, you have nothing to fall back on to figure it out for yourself.

Teaching a student aerobatics brings you to a choice. You can once again hand that person a procedure to accomplish each maneuver or you can take the opportunity to teach that person to be a flier, to learn the art of flying. Sure, we are all helped

by a method when first learning a task, but we are never self-sufficient as pilots until we become fliers; people who have a core understanding of how it works. Not a technical manual understanding, but an "Oh, that's how it works!" understanding. It's the difference that makes those champions who fly with such precision do their thing. They don't fly so well because they are reading a checklist during that maneuver; they are performing their art in harmony with the machine.

The start of a great aerobatic course is a review of (and more often introduction to) basic aerodynamics. It is the laying of a foundation that will allow you to build a successful aerobatic pilot. You don't have to bring out the calculator or start writing down formulas. Just talk about how flying basically works. Stir those old thoughts up from the bottom of the pot and get them back in the mix. You can use some great analogies, such as water skiing, to illustrate angle of attack and holding your hand out the window of a moving car to illustrate induced drag. Keep it simple, and keep it relevant. Draw pictures and relate them to the lesson at hand. Do it in your own teaching style. But for goodness sake, do it. 

*Greg Koontz has been involved in sport aerobatics since 1971. Greg flies air shows, is an aerobatic competency evaluator, operates Sky Country Lodge aerobatic school, and is a NAFI Master Instructor-Aerobatics.*

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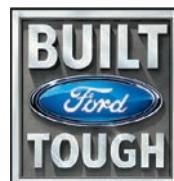
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