

SEPTEMBER 2007

SPORT *aerobatics*

OFFICIAL MAGAZINE OF THE INTERNATIONAL AEROBATIC CLUB



2007 World Aerobatic Championships

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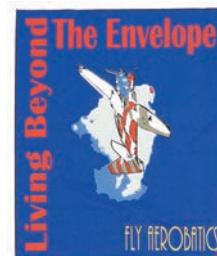
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This stylish T features a patriotic aerobatic aircraft on a blue-sky background on the t-shirt back with IAC logo on left front chest.

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SM I09415 MD I09416 LG I09417 XL I09418



Unstraight and Unlevel T

Set your unique flying skills apart from the rest with this 100% cotton T. Large screen print on t-shirt back with smaller screen print on left front chest.

SM-XL \$14.99 2XL \$17.99

SM I09410 MD I09411 LG I09412 XL I09413

2XL I09414



Pitts Special T

A classic comeback! You asked for it, you got it! This retro 1970s Pitts Special t-shirt features a "puffed" raised red ink to accentuate the Pitts model aircraft. Design on front of T. 100% cotton. **\$15.99; \$17.99 2X**

SM I07742, MD I07743, LG I07744, XL I07745, 2XL I07746



Pitts Windshirt

This water repellent polyester microfiber windshirt with nylon lining is just perfect for keeping the chill away on those cold mornings and evenings. V-neck, elastic cuff and bottom band. Antiqued silver grommets under arms, front welt pockets with snaps. Pitts aircraft screen-printed on back. Aerobatics USA logo screen-printed on left chest.

Available in gravel or red. **SM-2XL \$39.99**

Red: SM I05937, LG I05939, XL I05940, 2XL I05941

Gravel: SM I05942, MD I05943, LG I05944, XL I05945

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THE COVER

The United States Unlimited Aerobatic Team members in 2007 are (back) Chandy Clanton, Debby Rihn-Harvey, Vicki Cruse, Allyson Parker-Lauck, (middle) Zach Heffley, David Martin, Robert Armstrong, Dan Clark, Mike Rinker, (front) Dr. Tom Mueller, Norm DeWitt, and (not pictured) Michael Racy. Zach Heffley became a world champion with his gold medal in the 4-Minute Freestyle, and Debby Rihn-Harvey, Vicki Cruse, and Allyson Parker-Lauck brought home silver for the U.S. women's team. Photo by Irene Graves

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Judson Bartlett

LETTER from the EDITOR

by Scott Westover

Where is the tape? Seeing AirVenture through fresh eyes.

It was early in the morning. Early enough for the walk from the parking lot to leave my sneakers wet all the way through. My father-in-law, Richard Smith, and I had arrived for our second morning at AirVenture and were making our way to the Warbirds area for a sneak peek as the pilots prepared for their morning wing stretch. This was Richard's first trip to Oshkosh, which is a little surprising given his appreciation for aviation and airplanes. I was excited to share the adventure with him, and it was interesting to listen to his observations that were made with fresh eyes.

On this particular morning he summed up the allure of AirVenture with a simple comment. "The access is incredible," he said. "It's amazing to see such beautiful airplanes without a tape line making sure you keep your distance." I had not really thought about that before. I guess I had taken for granted the openness and access that defines this unique aviation pilgrimage. He's right of course (he usually is). During the daily air show, fans make their way through the flightline to get a good spot from which to watch the best pilots in the world defy gravity. Along the way they often find some shade under the wing of an airplane while they talk with its crew and learn about the machine and the always interesting journey to AirVenture.

Around the IAC building—which is your home when you visit Oshkosh as an IAC member—you have the opportunity to view some of the most advanced and beautiful flying machines in the world. At one point there were three MX2s and a Slick parked in the front yard. Around the side of the building were several soon-to-be champions. Paul Muhle displayed his Pitts S-1SS,

N557PM, which would be crowned Grand Champion Plans Built and take home the Gold Lindy award. Two rows away, Chris May was busy polishing his one-of-a-kind Wheeler Firebolt, N4GW, an aircraft that he finished the Saturday before AirVenture, just in time to grab a Bronze Lindy from the judges.

In every area, from the IAC building to the Vintage tiedowns to the Warbirds ramp, AirVenture puts you in the same space as the people and airplanes that make our sport so interesting. Where else could a couple of wet-footed guys gawk as one of the only remaining flying examples of a P-47 belched smoke and roared to life a few feet away? After my father-in-law's comment, I tried to picture Oshkosh with the miles of tape that most people probably expect to see. I decided that the tape would do more than litter the view. It would violate a defining principle of EAA, which is to provide a place to keep the passion for aviation strong through interaction. This "air show" is not about performers and displays. It is about experiencing aviation with those people who are closest to you and letting yourself get lost in the magic of flying like a child. Tape would only serve to divide the event into "fliers" and "watchers." In EAA and IAC, there are only "believers." Fly safely! ☺



Scott Westover

AirVenture is experiencing airplanes up close and personal.

Sport Aerobatics is your magazine. To submit news, comments, articles, or article ideas, please send them to: IAC, P.O. Box 3086, Oshkosh, WI 54903-3086; or email them to tookyflyer@tds.net.



PRESIDENT'S PAGE

by Vicki Cruse • IAC 22968
E-mail: vcruse@earthlink.net

Aviation USA

Land of "doers, seers, and feelers"

Having just come home from EAA AirVenture Oshkosh, I decided to do something a little different by not writing about the event as it will be long over by the time you read this. I was thinking about what aviation events are my favorites, and if I had to pick only one event to attend, which it would be. It's a bit of a dilemma for me, and I thought it might be for others as well, so I asked around.

The question I posed was this: "If you had the time and money to attend only one aviation event or location, what would it be and why would you choose it?" I sent the question to a variety of people, some of whom are not IAC members, but all have some connection to aviation, as pilots or enthusiasts.

Three people, all competition pilots, said their favorite event was the U.S. Nationals. One person wished to redeem himself from his performance last year, and another said this was the "big kahuna" for aerobatic nuts. Another said that Nationals provides an opportunity to see friends from around the country and to meet new and interesting people, all deeply involved in aviation. He said, "It's an interesting, educational, and thoroughly enjoyable way to spend a week away from the office." While he enjoys AirVenture, Sun 'n Fun, and other fly-ins, his preference is to "do" rather than watch.

Then there are those who come

to "see." One respondent preferred the smaller events, such as the Antique Airplane Association event in Iowa. He prefers to watch the old airplanes performing aerobatics. After watching Duane Cole fly an air show in his Taylorcraft in the early 1960s, he's been hooked. He said, "The old airplanes aren't as spectacular as the Pitts and Extras, but to me they seem much more graceful, and they don't make so much ear-shattering noise."

*"Oshkosh has
a whole lot of
everything..."*

Sun 'n Fun was mentioned as a favorite due to the laid-back feel of the event and many things for family members to do. By far the biggest favorite was AirVenture Oshkosh. One person said, "Sharing a common interest with such a large and diverse group of people is a unique experience for me." Another offered, "Oshkosh has a whole lot of everything...You see every kind of airplane you have ever heard of and some you haven't; the world's greatest air show

is presented each afternoon; there are forums on almost every conceivable subject; vendors have all the latest and greatest. There is always some weird airplane to give you hope that crazy characters have not been eliminated by the bureaucracy."

Lastly, there is an event for those who enjoy "feeling" aviation, literally. The Reno Air Races were mentioned by one man who enjoyed seeing airplanes go fast and great air show performances between the races. He said, "It's a bit expensive to attend, but definitely worth it." Having been to Reno three times, I can tell you there is no place on the planet where you can feel an airplane at max power fly by. That is something that cannot be described and must be experienced at least once in your lifetime.

We are fortunate to live in a country where there is so much variety when it comes to aviation opportunities, despite rules, regulations, and political issues. You don't have to look hard to find something you'll enjoy, whether you are a "doer, a seer, or a feeler." As for my choices, I'd have to say Oshkosh first and a very close second is the Reno Air Races, as a spectator.

One respondent quoted the following. "If a man, sir, is tired of London, he is tired of living." A slightly altered version appropriate for all of us would be, "If a person, sir, is tired of aviation, he is tired of living." ☺

NEWSBRIEFS

Kent Misegades Wins 2007 EAA Editorial Award

Kent Misegades was honored with the top prize in the 2007 EAA Newsletter Editor Awards at Oshkosh for his work with the IAC Chapter 19 newsletter, *The Dixie Acro Flyer*.

"We are very proud of Kent's excellent newsletter contribution for IAC Chapter 19 and congratulate him on the recognition extended by the EAA for his fine work," said IAC 19 President Larry Macon. "IAC Chapter 19 was the only IAC chapter to win an award. All the other honorees were regular EAA chapters."

Misegades joined IAC Chapter 19 in 2006 and immediately volunteered to be the newsletter editor. His first newsletter for IAC Chapter 19 was issued in June 2006, and it was an immediate "hit" with the members. Each subsequent newsletter has grown in popularity among the members and has become the "bond that holds our chapter members together," according to Macon.

IAC Chapter 19 currently has active members in North Carolina, Virginia, and Tennessee. With members spread over such a large geographical area, it is vitally important to maintain strong communications with all members to enhance their identification with the chapter and their participation in chapter events. Since mid-2006, the chapter has added 20 new members. The newsletter features articles on new members and informative and

Courtesy IAC Chapter 19



Kent Misegades (far right) was named the top EAA newsletter editor of the year at AirVenture 2007.

entertaining articles written by its members on aerobatic topics. *The Dixie Acro Flyer* contributors include Rob Bond, Mark Cassada, Mike Davis, Andrew Godbold, Garland Goodwin, Larry Macon, Kent Misegades, Eric Sandifer, Ron Schreck, Kendal Simpson, Bryan Taylor, Jim Walker, and Jim Zazas.

You can see the latest newsletters on the chapter website at www.IAC19.org.

Mike Mangold Wins London Red Bull Air Race World Series



Mike Mangold gets his second Red Bull Air Race win in London.

The River Thames' shores in London were lined with 35,000 spectators to watch American Mike Mangold (Team Cobra) soar to victory in the sixth leg of the Red Bull Air Race World Series, winning the race with a time of 1:25.82 minutes.

Mangold beat Britain's Paul Bonhomme (Team Matador) by just more than 1 second and completed a superb run at speeds of up to 260 mph and forces of up to 10g.

This is Mangold's second victory of the season after his win in Istanbul. Mangold also achieved the fastest lap of the day in his semifinal race against Peter Besenyei (Hungary) with a time of 1:24.79 minutes.

Following the race the ever-gracious Mangold tipped his hat to his rivals: "The other 11 pilots are some of the most professional aviators out there. It's a real honor to fly with these guys."

Bonhomme is still leading the championship with 31 points followed by Mangold with 30 points. In the consolation race for third place, Besenyei (Team Red Bull) beat Spaniard Alejandro Maclean (Team Matador).

The competition in London, the sixth leg of the 10-race Red Bull Air Race World Series, was the third stop to be held in Europe. Previous races were held in Abu Dhabi, Rio de Janeiro, Monument Valley (United States), Istanbul, and Interlaken (Switzerland). Last year there were more than six million spectators at eight races worldwide.

The next and final U.S. stop will be in San Diego, California, on Saturday, September 22, in the San Diego Bay. Visit www.RedBullAirRace.com.

Preregister for the 2007 U.S. National Aerobatic Championships

The 2007 U.S. National Aerobic Championships is set to run Sunday, September 23, through Saturday, September 29. This is a team selection year for the 2008 Advanced World Aerobic Competition (AWAC), which will be hosted by the United States next year.

On-site registration opens Saturday, September 22. Pilots are strongly encouraged to preregister. All participants must obtain a paid registration before getting a practice slot. Reservations for practice slots are first come, first served.

The contest will host competition for all categories in both power and

glider classes. Power Unlimited registrants may optionally compete in the Unlimited 4-Minute Free program. Undergraduate students enrolled at an accredited college, junior college, or vocational program (such as an FAA-approved airframe and powerplant mechanic program) receive discounted registration in all power categories except Advanced and Unlimited and in all glider categories.

Registration fees are

- Primary category: \$100
- Sportsman to Unlimited, non-team aspirants: \$200
- United States AWAC team aspirants: \$350

- Students: \$100

The board of the International Aerobatic Club (IAC) elected to have U.S. Advanced Aerobic Team aspirants fly a 12-figure Free sequence at the contest. Advanced category contestants not declaring for the team may elect to fly a 15-figure Free. Those who do so will not qualify for the world team and should not declare eligibility at registration.

The United States will host the Advanced World Aerobic Championship in Pendleton, Oregon, in August 2008. For more information and to preregister, visit www.USNationalAerobatics.org.

Win a Paint Scheme Designed by Mirco Pecorari



Does your airplane need a new look? Leave it to a professional. Italian graphic designer Mirco Pecorari has donated an aircraft paint scheme design to IAC. The winner will receive a design by Mirco, help with color choices, and graphics sent to the paint shop of your choice. Examples of Mirco's work include the Pitts Python seen on the cover of the June 2006 issue of *Sport Aerobatics* and the Relentless NXT race plane owned by Kevin Eldridge. Check out more examples of Mirco's work at www.IAC.org/news/paint_schemes.pdf and at Mirco's website www.AircraftStudioDesign.com. Raffle tickets are \$10 each. Five hundred tickets will be sold. The winner will be drawn at the U.S. Nationals banquet on September 28, 2007, and need not be present to win. To purchase tickets please contact IAC at 920.426.6574.

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An Alternate View of World Competition

In life (and aerobatics) getting there is half the fun!



Courtesy Steve Johnson

EDITOR'S NOTE: As you receive this issue of Sport Aerobatics, the members of the United States Unlimited Aerobic Team have returned from a successful World Aerobatic Championships in Spain, which was held from June 24 through July 4. In a few days pilots will be vying for a place on the United States Advanced Aerobic Team at the U.S. National Aerobatic Championships to be held at Grayson County Airport in Denison, Texas, from September 23-28. That team will represent the United States at the Advanced World Aerobatic Championship, which will be hosted by the United States in 2008. In celebration of the proud tradition of world competition, we thought it appropriate to share the perspective of Steve Johnson who competed in the Advanced World Aerobatic Championship in 2006. Steve shares the interesting perspective of an alternate to the U.S. team who decided to make the trip and take on the world. As you will read, Steve proves that getting there—and hopefully back again—can be more work than the contest itself.

Steve Johnson

During the summer of 2005 while at a regional U.S. aerobatic contest, I heard that there was a strong probability that the 2006 Advanced World Aerobatic Championship (AWAC) would be held in Las Vegas, Nevada. I am not a bad aerobatic pilot, I thought, and flying at a world contest in the United States would be the only way I would ever experience such an event. Traveling overseas, renting a foreign aircraft (from whom?), and then competing at the world level was just too much for my wallet and experience level to take seriously.

While I had been competing for many years, I had never been to the U.S. Nationals. I decided to go and see how I flew with the best in the country. I knew that every Advanced pilot wanted to be on the U.S. team when the world contest was held in the United States, so the Unknown

figures submitted by the pilots and consequently the final sequences developed would be very difficult. During Nationals, it appeared at times that the U.S. team was going to be whoever survived the flights. I was holding my own, within the top eight, until I had a bad flight in the first Unknown. It was one of those kick yourself, "I know better" kind of moments. I did redeem myself in the second Unknown, but still finished ninth overall, one slot out of the top eight who make the team. "That's okay," I said to myself in an effort at consolation. "Someone in that top eight will have to drop out. Their airplane will break, money will get tight...something will happen to make me number eight."

So the Nationals ended with me being the first alternate for the U.S. team and the information (rumor) that there was a 90 percent chance that the AWAC would be held in Las Vegas in October 2006. We waited with great anticipation for the November CIVA meeting only to learn from Mike Heuer, CIVA president, that Radom, Poland, had

been selected as the contest site for 2006. Radom, Poland? "Oh well," I thought. "That puts me out unless someone drops off the team." Then a couple of things seemed to happen nearly simultaneously.

First, my wife asked about going to the contest to watch as spectators. We'd never traveled internationally as a family, and she thought this would be a great excuse to venture abroad. Second, I heard that a single pilot could fly "hors concours," or as an independent pilot not eligible for the team points or trophies, but still as a competitor. I shot off some initial e-mails and made telephone calls to Marek Szufa, the contest director, about entering as an independent. Marek was all for it, as was Mike Heuer and the U.S. team members. So I decided to enter the contest as an independent, thinking that I could switch to the U.S. team if anyone dropped out. Still in the back of my mind was the thought that someone will have to drop off the U.S. team; there has always been some attrition after the Nationals among the team members.

After several border crossings and just under 4 hours in the cockpit, Steve arrives over Radom, Poland.

Courtesy Steve Johnson

"It will either be the easiest, most beautiful flight you have ever made, or you could end up somewhere in a town you cannot pronounce, with someone who speaks no English...but that would only be for a few days, and then they will let you go." It turned to be both... at the same time.

We submitted our preliminary entry for the United States as a team of eight plus one independent pilot in March 2006. As time went on, it became apparent that this AWAC was going to be one of the largest ever held, and rumors started circulating about cutting all of the independent pilots (at this time, there were three) and reducing team sizes from eight to six to handle the large number of competitors. Julia Wood, the U.S. AWAC team manager, and Lisa Popp, the IAC executive director, collected the entry fees from all the U.S. pilots, converted the U.S. dollars to euros, and wired the final application to the contest as one of the earliest official entrants. At the final entry deadline, there was still a record number of pilots entering the contest, and only those teams and independent pilots who submitted their payments by the deadline were guaranteed entry. I got a telephone

call from Marek Szufa, who personally told me I would be entered as an independent pilot because I got my fees in on time. Thanks, Lisa and Julia!

Through May and June I still expected to get a call or e-mail from someone saying he or she could not make the team, but it never happened, which allowed the United States to field the best Advanced aerobatic team we could at a world contest. All of the top eight pilots that competed at the Nationals would fly as part of the U.S. team at the AWAC.

Concurrent with the thought of "Could I fly in the AWAC?" was the thought "What would I fly in the AWAC?" Several people had contacts in Europe, and again Julia Wood came through. Tomo Poljanec of Lesce, Slovenia, had a beautiful Pitts S-2B that might be available for rent. A few e-mails later I had a deal with



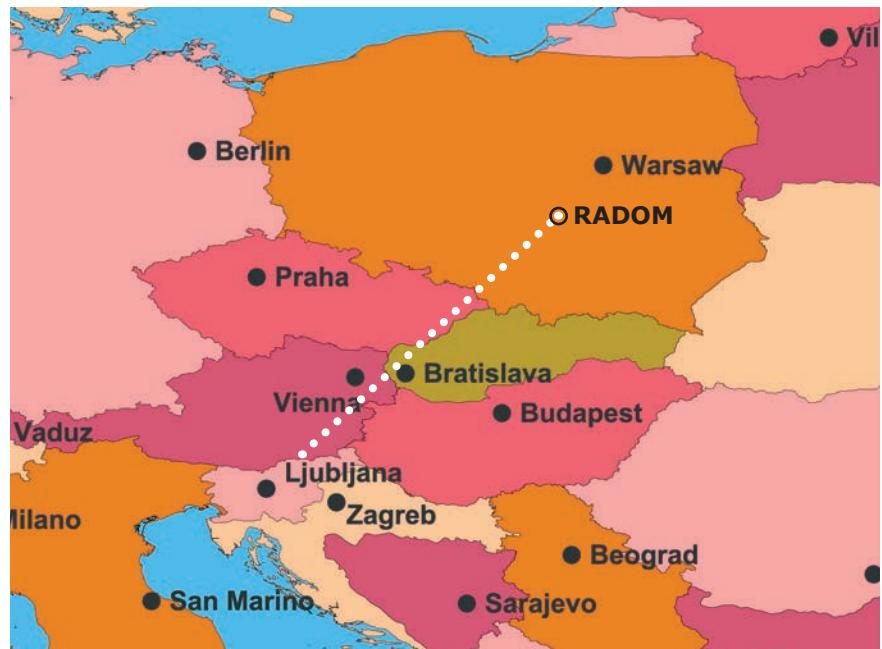
Steve Johnson

This Antonov AN II was typical of the flight line scenery at fuel stops.

Tomo to fly his Pitts at the AWAC. There was one small problem; Lesce, Slovenia, is about a four-hour cross-country flight from the contest site in Radom, Poland. I had asked for adventure, and I was about to get it.

I asked other U.S. aerobatic pilots about flying in visual flight rules (VFR) conditions in Europe, and it was best summed up by one pilot who said, "It will either be the easiest, most beautiful flight you have ever made, or you could end up somewhere in a town you cannot pronounce, with someone who speaks no English...but that would only be for a few days, and then they will let you go." It turned to be both...at the same time.

VFR flights in Europe from one airport to another within the same country require flight plans, and the detail required varies from country to country. When you cross international borders, the flight planning



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*With low B-12 straps on leg straps, TT on chest strap.



Once Steve got his borrowed Pitts to Poland, other pilots had some fun at the stick during a photo shoot [Steve could not participate in the shoot because he was a competitor].

becomes even more cumbersome. You must file a checkpoint in your flight plan that shows each point where you will cross a border into a country where you intend to land, and the time of that crossing. This is fairly easy with a good GPS and a calculator, but in Poland especially, by the time you get your flight plan filed, go through passport control, and get back to your airplane, your time estimates are already shot. Luckily both times this happened I was able to amend the flight plan with the local controllers. A Slovenian air traffic controller and AWAC competitor, Peter Omersa, assisted me with my flight planning. Actually, he did the flight plans and generated sectional charts for my routes. Here was the flight from Lesce to Radom:

- Lesce to Ljubljana: 10 minutes, 5 nm (For passport control to leave the country)
- Ljubljana to Voslow, Austria: 1.2 hours , 135 nm (Fuel stop before the next leg)
- Voslow to Krakow: 1.5 hours, 205 nm (Passport control to enter Poland and a fuel stop)
- Krakow to Radom: 50 minutes, 100 nm (Finally there!)
- Total: 3.7 hours, 455 nm

Getting through passport control in both Slovenia and Austria was easy. The personnel in both countries were used to small aircraft, and processing pilots from different countries was routine procedure. The landing fee in Austria was about \$10 U.S., and there was no landing fee in Slovenia. Passport control and flight planning in Poland was very different. In Krakow it took 2.5 hours to go through passport control, get fueled, and pay for the fuel and the assorted fees: a landing fee of \$35, another "handling" fee of \$35, and a navigation fee of \$45—each paid at a different place! On a lighter note, and I am sure part of the "handling fee," was that general aviation (GA) aircraft had to park about a mile from the terminal. There was a very nice young lady, Katrina, who drove me from the GA parking area to the terminal, and literally held my hand the first time through the Polish bureaucracy maze of passport control, paying for fuel and fees, and then to the briefing office for flight planning and more fee paying. She rolled her eyes for me at the fees and wasted time, but explained that she could not change any of it.

After surveying several large, armed soldiers, we paid the fees and got out of there.

On the trip back, over the same route, I flew with one of the Slovenian pilots, Jago Stemberger. Prior to leaving Sadkow airport that morning, we checked the weather and learned that a thunderstorm had passed through Krakow, leaving some low scud and poor visibility that was forecast to dissipate quickly. Unfortunately, Krakow decided it was not going to take any VFR aircraft until 6:00 p.m. local time. We could not fly from Krakow to Ljubljana before dark if we did not leave Krakow before 4:30 p.m. local. As he had many times during the contest,

again Marek Szufa saved the day. After many telephone calls to the tower personnel at Krakow and other places, Marek came to Jago and me and said that we now had special permission to fly VFR to Krakow, and that immediately after leaving Sadkow, we should contact Krakow Information, a sort of VFR controller, on the discrete frequency he provided.

Once airborne, as instructed, we switched to the Krakow Information frequency, where just by the tone of the controller's voice, we could hear him wondering, "Who are these crazy foreigners, and what did they do to get this special flight plan?" Even when we landed at Krakow, people came out of the buildings to see who had accomplished this minor miracle of VFR flight into Krakow. By the way, the weather at Krakow was 5,000 feet broken to scattered with better than 10 miles' visibility, though they called it 1,700 meters and better than 10 kilometers visibility.

We had done our flight planning that morning at the contest site thinking we would avoid the "navigation fee" at Krakow. When we arrived it was explained to us that the navigation fee was for use of the airspace and for the controllers who assisted with our navigation. After surveying several large, armed soldiers, we paid the fees and got out of there. At least Katrina was there again to provide ground transportation and the needed hand-holding through the bureaucracy. In the air again, we did as much of a happy dance as was possible in a five-point harness when we transitioned into Austrian airspace.

Overall, even though I was flying VFR, my cross-country flights were comparable to flying in the U.S. instrument flight rules (IFR) system. Any U.S. pilot comfortable with U.S. IFR flight plans and communications will find VFR flights in Eastern Europe to be similar. Within each country, the VFR rules are similar to the United States, but when going from airport to airport within a country or crossing a country border becomes involved, keep your flight plans detailed and carry the local currency. Neither U.S. dollars nor euros were very welcome at Krakow, though my Visa card and Polish zlotys kept the people behind the counters, and the soldiers, very happy. ☺

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WORLD AEROBATIC CHAMPIONSHIPS IN REVIEW • 2007

*By Norm DeWitt,
President, USUSA
with photos by
Irene Graves*



⇒ TEAMWORK LEADS TO SILVER AND GOLD ⇒

THE 24TH WORLD AEROBATIC CHAMPIONSHIPS (WAC) RAN FROM JUNE 24 TO JULY 4, 2007 IN ARMILLA, SPAIN, ON THE OUTSKIRTS OF THE BEAUTIFUL CITY OF GRANADA.

THE CONTEST, WITH 51 CONTESTANTS FROM 11 NATIONS, WAS HELD ON THE ARMILLA MILITARY HELICOPTER AIR BASE.

Opening ceremonies were held at the headquarters building on the base. A wonderful meal was included and was served with a plentiful supply of excellent Spanish wines. All were treated to a quartet playing Spanish flamenco music, and two fantastic dancers performing with them. Near the end of the evening, the order of flight for the Q program was drawn, and everyone returned to the hotel well after midnight.

On Monday, Day 1, a pilot briefing was held at 0900. Everyone was eager to begin the flying, but there were scheduled interruptions that had to be accommodated, such as allowing the Spanish air force to practice between

1130 and 1200 for an upcoming weekend air show. The first group to practice was a five-ship formation helicopter team who had a great performance. Video of their flight is available on the World Aerobatic Championships DVD, which will be available through the IAC. Lunches were scheduled at 1400 in the Officer's Club, and flying would not restart before 1700 so that the judges could rest from the heat. The contest organizers managed to fly 17 pilots on the first day.

Chandy Clanton had the best flight for the U.S. Team. After the Q program, she was the top female pilot in the contest, eighth overall, and was ahead of Svetlana Kapanina,

the eventual top female pilot in the contest. Michael Racy also turned in a most respectable fifth-place performance. Allyson Parker-Lauck, Dan Clark, and David Martin each had strong flights with no zeros and no lows. Dan was flying his Patriot 300 biplane. It was the only biplane in the contest, and although flown expertly by Dan, it most likely will be the last biplane in the WAC. There are some figures in WAC Unknowns that are hard in any monoplane, but the drag of a biplane is hard to overcome. Cástor Fantoba, from Spain, also had a strong flight along with Elena Klimovich and Victor Chmal from Russia. By the end of the second day, the Q program was complete.

Day 3 started with a briefing at 0830. It was a beautiful, clear day with gentle winds. All contestants felt that we could easily complete the Freestyle program, but that was not in the cards. Due to a variety of paperwork problems and an issue with a lack of proper sighting devices on the boundaries, the first contestant did not launch until 1800. Needless to say, there were a lot of frustrated people on the base. A highlight of the day, however, was the reappearance of the Spanish air force for practice with a seven-ship formation flight of jet trainers. One of the solo pilots performed an outside loop starting from approximately 300 feet AGL. They also flew a very nice horizontal bomb burst.

On Day 4, 42 pilots had completed the Freestyle flight. On this day, the Spanish air force flew an F/A-18 solo demonstration. The air base is surrounded by mountains, and the city of Granada is virtually adjacent to the base. I am confident that no one within 15 miles was unaware that the F/A-18 was in the air. It was definitely noisy, but isn't that the sound of freedom?

By Day 5, the contest organizers had things running smoothly. The Freestyle program was completed in the morning, and there was a rhythm after that. The Spanish air force demo this day was the Euro Fighter. Many at the WAC had never seen this fighter perform, so all eyes were skyward when it entered the box. The plane is a sleek delta wing/canard, twin-jet, single-place fighter. However, the demonstration did not showcase the aircraft's true capabilities. It appeared to be in afterburner for much of its flight, whereas the F/A-18 was not. Its most impressive maneuver was a left turn with a full afterburner retreat to its home base. In the afternoon, the first Unknown program began. On Saturday, Day 6, the first Unknown program was finished.

On Sunday, the air base hosted the air show they had practiced all week. Approximately 10,000 people attended the show, which was well executed. The WAC organizers also flew the 4-Minute Freestyle event. Zach Heffley flew an impressive flight with an awesome tumble ending in a vertical slip in front of the judges. Everyone who saw the maneuver



WHEN THE COMPETITION IS HELD AT A HELICOPTER BASE, THERE ARE SURE TO BE UNUSUAL ROTOR SIGHTINGS.



ZACH HEFFLEY CAN NOT AFFORD TO BE DISTRACTED BY THE BEAUTIFUL SPANISH COUNTRYSIDE AS HE PREPARES FOR A FLIGHT.



ONE OF THE FAVORITE MODES OF GROUND TRANSPORTATION AT WAC WAS "WING WALKING."



felt that it would place him high. It did more than that. It placed him in first place, and Zach earned a gold medal, the Manfred Stroessenreuther trophy, and a world championship in the event.

Monday was a free day for the contest participants, and the U.S. team visited the Alhambra Palace, a Moorish castle built in the 13th century.

On Tuesday, the second Unknown program was flown and completed. The contest flying was finished. Going into this flight were five men's teams within 500 points of each other. A mistake by any pilot would reshuffle the standings. In the end, the French team finished in first place, earning 28,135 points. They were followed closely by the team from Spain with 28,066 points. Russia held onto third place with 27,243 points, followed by the U.S. team with 27,025 points.

Our U.S. women's team finished second to Russia and was awarded silver FAI medals. Debby Rihn-Harvey, Vicki Cruse, and Allyson Parker-Lauck were the team members earning medals.

TEAM MANAGER NORM DEWITT WORKED WITH THE U.S. TEAM EVERY STEP OF THE WAY TO GET THEM TO SPAIN – AND APPARENTLY WAS NOT AFRAID TO USE FORCE TO KEEP ORDER.

You can and should be proud of this year's U.S. Unlimited Aerobatic Team. They looked like a team, with everyone wearing team colors each day. They acted like a team, with everyone getting along and helping each other. They made new friends from around the world. They brought home gold and silver medals. They made themselves proud, they made you proud, and they made America proud.

In the future, how can the team do even better? First, to perform at one's best, each of our pilots must be flying his or her own airplane. Making arrangements to rent a plane in Europe mitigates some expense and hassle, but it also means that the pilot will probably not be among the top pilots at the contest. The availability of an Air Force C-5A is a must. Prior to the contest, our pilots should be focusing on their job of producing five peak performance flights, not worrying about disassembly, transport, assembly, ferrying, and a host of other details to get their aircraft in country. If the United States is interested in being present at the World Aerobatic Championships, our government needs to make the C-5A available in the future. Each of you may be asked to contact your congressman/senator to request support from the State Department for the C-5A.

Second, financial support from corporate sponsors and individual donations must continue. It costs \$25,000 to \$35,000 today to take one's airplane to the WAC. The availability of the C-5A would reduce a pilot's expenses by approximately 50 percent. The remainder of the expense can be covered by corporate and individual contributions. Unlimited Aerobatics USA Inc. is committed to raising funds for the team and, in return, working with our sponsors to meet their corporate objectives.

Finally, each member of future teams must commit to helping every other team member fly to the best of his or her ability during the WAC. Competition aerobatics is an individual sport in the United States. Often, "tricks of the trade" are kept to oneself. In the WAC, the objective is to win the team gold medals for men and women. To accomplish that objective, the team



U.S. CHAMPION DEBBY RIHN-HARVEY SNAPS A SALUTE ON HER WAY TO THE MEDALS.

Zach Heffley flew an impressive flight with an awesome tumble ending in a vertical slip in front of the judges.

members must help each other and share information. If they don't, then another country will be on the top riser with the gold medal.

Many "thank-yous" are due to supporters, donors, and volunteers. On behalf of this year's team, many thanks go to Dr. Tom Muller and his son, Tommy. This year, the team had several medical issues. Having Dr. Tom available to lend his medical expertise, advice, and counsel certainly aided all members. Chuck and Irene Graves took time off from their jobs to document WAC on video and still photography. They

will produce a DVD of the WAC; this will be available for purchase through IAC. The Graves worked long days to record the highlights of the contest. Irene had no sleep for three days before her arrival, but immediately went to work to document the opening ceremonies. Chuck did the same, having gone 30-plus hours without sleep himself.

Terry Lauck came over to help Allyson during her practice with the Spanish Team, but had to leave shortly after the contest began. As always, Terry was helpful to all. Martha Martin took on responsibility to throw the wine-and-cheese party for the U.S. Team. The party was a great success, and many compliments were received from the organizers, judges, and members of the other teams. Hubie Tolson, our U.S. independent, contributed the use of his airplane to Zach. Without that generosity, Zach and your team might not have brought home gold. Not only did he make his plane available, but he also wrenched tirelessly to keep it in top condition throughout the contest. As an example, prior to Zach's 4-Minute

Free flight, it was discovered that there was a smoke oil leak in the cockpit that needed an immediate fix. The cowls were pulled, and the source of the leak was traced and fixed. Thanks, Hubie and Dan.

Chandy and her father, Harry Barr, lent her plane to Vicki. Harry made all of the arrangements to ship Chandy's plane to Luxembourg, re-assemble, flight test, and relocate to Spain. Then, Harry did the reverse after the contest. He also opened up a congressional contact that attempted to secure C-5A transport for the team. Thanks, Harry. Also, Debby made her plane available to Robert Armstrong.

Thank you to our corporate sponsors: LightSpeed Headsets, Sky-Tec, Zivko Aeronautics Inc., Silver Parachute Sales & Service, and AeroShell. Thank you to all of the individual donors for your generosity. Without your financial support, we would have had trouble fielding a full 10-member team. ☺

For results from the 2007 WAC, please click the link on the U.S. Team website, www.unlimitedaerobaticsusa.com.

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2007 WORLD AEROBATIC C



CHAMPIONSHIPS IN REVIEW



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The notice posted on the airport bulletin board said,

"I fly the blue Pitts, and I can't see very well, plus I'm fast, so please try to stay out of my way. Thank you."

This is not a joke; it was an actual notice that we saw posted . . .



TAMING TRAFFIC PATTERNS

Special airplanes have special needs

Budd Davisson

. . . It's hard to know how most pilots reacted to it, but the reason we saw the notice at all was because two pilots were reading it and laughing. The absurdity of a pilot announcing to the world "Here I come, watch out" was indeed laughable, although the problems faced by that pilot and the flying community around him are very real. The reason it is absurd

is because it's like a motorcycle rider expecting the world to step aside and let him through, which every bike rider knows isn't going to happen. If anything, just the opposite happens.

FLYING BLIND AND FAST

Not all aerobatic airplanes are as blind as a Pitts (few airplanes of

any kind are as blind as a Pitts), but many aerobatic airplanes are indeed visually challenged. Plus, many are small and faster than most of the other airplanes in the pattern. All of these factors combine to make the simplest non-aerobatic maneuver of all, flying the pattern, both challenging and potentially lethal. Plus, we have the not-so-minor problem of

keeping peace within the local flying community because of our special operational needs.

We'll get to ways of handling the safety aspect of the pattern in a moment, but this last point, keeping peace within the local community, aviation and otherwise, is a bigger problem than we sometimes realize it is. We all know the problems aerobatic practice areas have, but to a lesser degree, some of the same problems apply to flying the pattern as well.

satisfy airport complainers. It's in their genes, and they are probably complaining to other parts of city government about other irritations ("Those damn kids have playing cards clipped to their bicycle spokes and are driving up and down in front of my house."). Still, when we're flying the pattern, it helps a lot if we identify where the complainers live and fly wide around them and use reduced power settings while we do it. We have to remember that we exist only because the airport lets

when all we're trying to do is keep the runway in sight and avoid running someone else down.

When talking about keeping the troops around us happy, it all comes down to consideration. We want to do our best not to further irritate those whom we know are easily irritated by holding them up on the taxiway, cutting in front of their ridiculously long finals, flying over a known complainer's house at full power on takeoff (go around them), and a myriad of other irritat-



Steep turns in the pattern help with visibility and make aerobatic airplanes "different" from other nearby aircraft.



Robert Bismuth

DON'T TRY TO RATIONALIZE

First, those of us who fly the more visually identifiable aerobatic airplanes, the biplanes and the mission-specific monoplanes, have to face one basic fact: We can't begin to rationalize what we do, and everyone knows it. For instance, when someone sees a Pitts flying overhead, much less slipping around the corner for a landing or rocketing up off the ground at an impossible angle, they all know we are just up there having a good time. And that irritates the daylights out of some people, especially when we light the wick on our engine, at which time our straight-pipes do nothing to make the sound socially acceptable. This provides a viable reason to call the airport and complain about the little airplane that's making so much noise.

The truth is there is no way to

us exist, and if it gets enough complaints, it'll have to ask us to leave.

And don't think that other pilots automatically accept us either. We have our share of enemies within the flying community too. A long-time pilot once pointed out that he saw what we do as "unnecessary aviation"; to some pilots we serve no purpose and do nothing more than clutter up the sky. So when we fly the pattern, or even when we taxi out, we're under scrutiny: If we do anything even slightly out of the ordinary, people are there to take mental notes and put another mark in the negative column of their scorecard.

Unfortunately, in many of our airplanes, we do something out of the ordinary on every takeoff and landing: we make it short and we make it steep. This is the safe way to fly our machines, but "they" don't know that. They think we are hot-dogging,

ing factors they freely let us know about. Right or wrong, there are more of them than there are of us, so it behooves us to stay away from them.

SAFETY FACTORS

And then there are the safety concerns of flying quick, tiny airplanes that are blind in the pattern. First, the motorcycle metaphor works beautifully. Any of us who ride bikes know the two most important aspects of our riding is "paranoia" and "defense." Even so, we are constantly amazed at the ability of the driving public to do incredibly stupid and dangerous things. It is as if we and our motorcycles are invisible. The same holds true for airplanes such as ours.

We have to take a number of things into consideration: The fact that people continually get in our way isn't entirely their fault. It's usu-

ally the result of a couple of factors conspiring, beginning with the fact that we are tiny and, even if they see us—which they usually don’t—they’ll misjudge how far away we are and how quickly we get around the pattern. Most aerobatic airplanes aren’t necessarily much faster than Piper products, although we’ll eat Cessna products alive. However, speed is only part of the closure rate equation. A bigger part is that we’re flying much tighter patterns so we are flying much shorter distances, sometimes less than a third to a half that of a 172 (or a B-52, which flies the same distance). Combine the shorter distance with the speed and we can rip around a pattern in a fraction of the time they expect.

A CASE IN POINT

A pilot in a 172 is sitting at the threshold having done his run-up. He looks up and sees us on down-

wind abeam the threshold and can’t imagine that, if he taxies out to take-off, there will be a traffic conflict. Here’s a fact: If something like a Pitts is abeam the numbers and chops the power to land, that 172 will have barely taxied out onto the centerline, much less taken off, before we’re chewing on its tail feathers. We have to take that into consideration and extend or go around. We can’t assume the other aircraft will get off the ground. The tragedy is that the 172 driver doesn’t even know he created a problem because he doesn’t understand how our airplanes perform. There’s nothing we can do about this kind of thing other than making a blanket assumption that “they just don’t know” and work around it. It does no good to chastise them. It’s our problem, not theirs, and ultimately we are in a position to make things safer for everyone.

SEEING THE BIG PICTURE

A good way to look at other aircraft is to picture them as having a small heads-up display (HUD) in the windshield while every other piece of Plexiglas is painted black. We make the assumption that they don’t even know we’re in the state, so we take on the entire burden of traffic separation ourselves. We expect no help from other traffic and trust the tower only to give approximate directions that we will evaluate before complying. In short, we trust no one.

Because of the above, if we’re flying a *really* blind airplane, we’re going to modify our patterns to make up for our lack of visibility and for the probable lack of awareness on the part of other traffic. It’s the motorcycle thing in play: paranoia and defensiveness rule!

A caveat is needed here: You can insult a pilot any way you want to, and often he’ll laugh it



Robert Bismuth

The unique character of aerobatic airplanes attracts attention even when flying straight and level.

When we're flying the pattern, it helps a lot if we identify where the complainers live and fly wide around them and use reduced power settings while we do it.

off. However, question his ability, or the way in which he flies, and you'll have your hands full. So, the following discourse should be viewed only as a general guide to flying the pattern that some of us use to solve both the traffic and the lack of visibility problems. There are lots of differing opinions about all of this. Truth is, I started flying these kinds of patterns when instructing out of a narrow, 1,900-foot strip, where losing reference to the runway behind the nose for even a second was unacceptable and dangerous. Plus we had very unpredictable traffic, so another eye was needed on final. Everyone has a favorite way to land, and this is just one that I know works.

GEOMETRY AND VISIBILITY

Our first defense against traffic is that our downwind will be in much closer, which it should be anyway. This will keep us away from the other traffic and keep them out where we can see them. Then, we'll adhere to two basic types of patterns from that point on: a short one, which assumes no traffic on final or threats on the runway, and a long one that uses geometry to maintain visibility of both the runway and the traffic ahead on final.

The long approach involves a dogleg downwind that turns about 15 degrees away from centerline immediately opposite the threshold (clear behind you before turning). The reason for the turn is that it gives us more room to turn back onto "final," which will be a line that goes from the center of the numbers at about a 15-degree angle to the left of the centerline. This way, we see the runway on the left side of the nose and final on the right side all the time that we are headed toward the numbers.

Incidentally, I have a personal thing about depending on an engine to get me to the runway. I always assume it's going to quit (I've been proven right five times, four of them in Pitts), so altitude is our

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*... we're flying much
tighter patterns so we are
flying much shorter distances,
sometimes less than a third
to a half that of a 172.*



Aerobatic pilots have never been known to shy away from attention – and that means people are watching.

friend. The beauty of all aerobatic airplanes is that they slip really well, so maintaining altitude until the last second, when we know we have the runway made before chopping the power, is insurance.

Here's another caveat: aircraft equipped with the Hartzell composite three-blade "claw" propeller don't need the slip, or at least need it very little and only occasionally. That prop is like having a drag chute, so you can point the nose down with no fear of gaining speed and get excellent visibility at the same time. MT three-blades have a little of the same effect, but it's not nearly as pronounced.

It's important to understand that the visibility is controlled by the geometry of the approach—the 15 degrees or so by which we displace final—and the slip is only there to control the glide slope independent of the engine. We're assuming there is no power available. The slip does increase visibility, but that is just a fortunate byproduct.

As we close on the runway and see we're high (the runway numbers are visually moving toward us), we slip (there's an entire book to be written about the nuances right here, but that's for another rant) and then slowly come out of the slip at the end and make one of our usual greasers (yeah, right!). That's the extended approach.

The short approach can be flown power-off from downwind (which we do), or if you trust in the engine gods, use a small amount of power most of the way in (this, in my view, is substituting horsepower for the judgment required to handle an engine failure).

Although many of you probably fly carrier-style, 180-degree turning approaches, we no longer promote those, although for years we did. Having the continual turn from downwind to the numbers works well when you're on a carrier because you know there's no one else on final. In our world, however, if you miss seeing an airplane on final before committing to the turn, you have no chance to clear final again. Your belly is a sweeping blind spot. I personally know two pilots who landed on other airplanes flying that approach and

Robert Bismuth

watched another who landed a Pitts a couple hundred feet behind a 152. By some miracle he saw the Cessna's wingtips at the last second and careened off the runway, missing him entirely. For these reasons, add a short base leg to your approach. Roll out on base, clear right, clear left, and only then turn in.

Here again, we're flying a line 15 degrees (or so) off center so we can both watch for traffic on final *and* see the end of the runway so nothing surprises us. Then we slip around the corner (or however you feel like getting there) and commit another grease job.

If you're flying off a towered field, it helps if you go talk to the controllers and explain the how's and why's of your pattern. It's important they know you can't see other traffic as well as others can and that you avoid centerline not only because of traffic, but also because the runway disappears (in a Pitts, it's the airport that disappears).

The bottom line is that safety in the pattern is 100 percent in our hands. We can't expect other pilots to either understand or even begin to compensate for what is a shortcoming in our aircraft, not theirs. Also, forget about the concept of "right-of-way." When it comes to flying, only safety counts, and since we're more capable of solving traffic problems than the other aircraft, let's be the good guy and solve them. 



Editor's Note: On this subject, Budd knows of what he speaks: He makes approximately 2,500 Pitts landings a year at what is reputed to be the busiest single-runway airport in the nation. Visit him at www.AirBum.com.



Robert Bismuth

The art of taxiing blind airplanes has aerobatic pilots maneuvering differently on the ground as well as in the air.



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Scott Westover

Volunteer? Who . . . Me?

*Finding the
place where
you belong*

The author and her husband, Bunk, find that volunteering has its own rewards.

Diana Chase

I started attending Sun 'n Fun Fly-In at Lakeland, Florida, with my husband in 1992. My husband, Bunk Chase, had been bitten by the aviation bug when he was a young boy growing up in Clinton, Tennessee. He lived next door to a small grass-strip airport where he would sneak over against his mother's directive and beg rides from the pilots in their small planes. He told me that the first time he saw a plane take off he watched it until it was out of sight. It was no surprise when he started flight training, something I encouraged him to do.

During those early years, I enjoyed flying with my husband and our children in our 1948 Stinson Voyager Station Wagon 108-3, but much of my energy and interests were focused on raising our children and on my horses (my passion since I was a child). It wasn't until the early to mid-'90s that I would succumb to the highly contagious aviation bug.

Over the years, Bunk and I attended many small regional air shows and local fly-ins. During those visits we enjoyed looking at aircraft, watching the air show performers, and attending forums and workshops. At Sun 'n Fun, I wanted to find something more to do during the week. Over the years, we had been drawn to the Aerobatic Center because of our fascination with aerobatics and by the very friendly people there. As we became better acquainted with Jim and Jean Taylor, the center's chairmen, we asked if they needed any help. It seemed like a marriage made in air show heaven, so we jumped in with both feet and without our parachutes!

When Bunk and I showed up for our first "set-up day" we discovered that our assistance was needed with signs and merchandise. Since Bunk had been in the sign business for many years and I had been working in catalog sales for L.L. Bean, we had

the feeling that fate had led us to our new roles as volunteers. When Bunk told Jim that he had experience with making signs Jim looked as if he had just been delivered from the trials of Job and gladly relinquished the container of vinyl letters.

For me, becoming a volunteer was exactly the prescription I needed to cure my feeling of being on the outside looking in. Having been involved with our local EAA Chapter 141 at the airpark where Bunk and I live in Limington, Maine, I have found that I enjoy being part of an organization, especially one that I have a keen interest in. Bunk and I also managed the fixed base operator where we live for many years, and becoming a volunteer in the Aerobatic Center felt like a very natural progression for both of us. We have been volunteers there now for about eight years.

For us, the Aerobatic Center is the perfect place to be. I feel as if our involvement there gives us the

opportunity to have our fingers on the pulse of the event's operations and the aerobatic community. Until I became a volunteer, I hadn't realized that it was exactly what I had been looking for. The rewards far exceed my expectations and my imagination. I am not only involved, but I have made some wonderful friends who are now like family. Indeed, it truly feels like a family in the Aerobatic Center, in the International Aerobatic Club (IAC) center at EAA AirVenture Oshkosh, and in the extended family of EAA volunteers.

During my years as a volunteer both at Sun 'n Fun and in the IAC building at Oshkosh, I have had the privilege of meeting many of the air show performers and aerobatic team members. Sometimes there are unexpected rewards, like the time I had a ride in an Edge 540 and flew my first aerobatics! That was a thrill I will never forget! Thank you, Steve Cunningham, formerly of the United States Aerobatic Foundation, and Tim (the pilot)!

One of the most exciting aspects of volunteering is hosting visitors

who drop by or performers who hold autograph sessions. One year, it was a great thrill having Patty Wagstaff set up her merchandise booth in our tent. Patty often dropped by for Jean Taylor's "frou-frou" coffee (her description of Jean's gourmet coffee), saying that it was the best coffee on the grounds.

While working at the center, I'm continually in a state of expectancy never knowing who might show up. I have enjoyed the privilege of meeting performers like Mike Goulian, and I don't know if I will ever get used to the thrill of actually being recognized by some of these great aerobatic pilots. Like most other ordinary people who feel like a speck in the cosmos, I'm always surprised when that happens. Last year at Sun 'n Fun, I heard someone call my name, and then was frozen to the spot as Sean Tucker came up to me and gave me a big hug! He had just lost his airplane a few days before. After his performance at the Curtis Pitts Fly-In in Ozark, Alabama, a few years ago, Sean had autographed my

T-shirt and I told him that he was the James Bond of aerobatics, because nobody does it better!" I had the chance to really get in on the action during AirVenture 2005 when I was one of Sean's pole-holders as he cut the ribbons during his performance. Later I learned that Harrison Ford was also holding a pole. It's just as well that I didn't meet him, as I probably would have stuttered something totally inane.

I know many people may wonder why someone would want to work during their vacation, but I hardly consider what I do work. I can truly say that I have gained far more from being a volunteer than I could have ever imagined. I have found the sense of belonging I was looking for and more. I love being a part of the excitement that is our Sun 'n Fun and EAA AirVenture fly-ins, of being close to the action and a part of this wonderful aviation community and family. I hope I can continue to volunteer for many years to come and look forward to doing so. I hope I'll see you there! ☺

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TECHNICAL ADVISOR

By Vicki Cruse with Peter M. Jensen

This month's column centers on aircraft fuel system problems. Peter Jensen tells of his experience with a broken fuel injector line in flight, and we include tips on flowing and cleaning fuel injectors.

Going with the flow

Peter recalls his "Mayday at Mount Diablo."

I was practicing the 2006 Intermediate Known by Mount Diablo, California. The sky was clear, the air was thick, and I was flying an aerobatic airplane. Life was good! After about 15 minutes, I decided to go through the sequence one more time before heading back. All of sudden, the engine rpm dropped from 2700 to approximately 2000, and with the change came a good deal of vibration.

More or less in a state of panic, I started yelling "Mayday-Mayday-Mayday" on whatever frequency was dialed in. A guy in a Yak over by Petaluma responded calmly: "Pitts, where are you, and what are your intentions?" I was still getting about 2000 rpm out of the engine, so I announced that I would head over to Byron about 10 miles away. Thankfully, the engine kept running, and I made a safe landing.

After contacting approach to cancel the Mayday call, I tried to think about what the cause of the sudden drop in rpm could be. Here's what I observed:

- The exhaust gas temperature (EGT) gauge wasn't showing any indication of temperature on the exhaust manifold for cylinder number 4. This is the cylinder where the probe is attached.
- I still had oil pressure.
- I could only get approximately 2000 rpm at full throttle.
- There was noticeable vibration.

- When pulling the prop through after landing, there was still compression in all cylinders, and there were no unusual noises.

Based on the EGT not showing any temperature, I was pretty certain that cylinder number 4 wasn't firing. Since the drop in rpm was more than what would've resulted from a dead magneto, I figured the problem was probably lack of fuel supply from the injector nozzle. A clogged up injector seemed a likely scenario.

First thing Monday morning the local maintenance shop diagnosed the problem. It turned out to be a broken fuel injector line! I hesitantly asked if that meant fuel was being sprayed out over the top of a hot engine. The answer was a prompt yes, and I realized that I had been lucky to avoid an in-flight fire.

I learned some lessons that might benefit others as well:

- Know your glide ratio. Most pilots are pretty good at judging distances on the ground. How far can you get in case the engine quits? If the glide ratio is about 3-to-1, you can probably get about 3 miles if you're at 5,000 to 6,000 feet. Is that enough to make it to the airport, or is the time better spent looking for an alternate landing location?
- Study the area you're practicing over. If you mostly practice over the same area, it's a really good idea to have a couple of emergency landing spots picked out before you need them. Picking the best spot in an emergency adds pressure.
- Carry a cell phone. When finally

on the ground, this is definitely the most useful tool. I didn't have one with me but was fortunate enough to borrow one. It would have been really handy to have some phone numbers as well: friends, family, NORCAL, taxi, etc.

- Bring a clean pair of underwear. There was a vending machine with candy and one with soda, but none with fresh underwear.



A fully-charged cell phone should be on board with all pilots.

“... I hesitantly asked if that meant fuel was being sprayed out over the top of a hot engine. The answer was a prompt yes, and I realized that I had been lucky to avoid an in-flight fire.”

– Peter M. Jensen

Finding trouble before it finds you: Detecting dirt in the fuel injection system.

Peter's story highlights the importance of preventive maintenance. Pilots and mechanics can troubleshoot fuel-injected powerplants more efficiently if they are able to recognize the principle cause of trouble, which is dirt in the system. Fuel injection cannot tolerate any kind of dirt or contaminates. The nozzles are vulnerable to dirt, as are the small fuel lines and the flow divider. If dirt is present in the system, the fuel flow reading will tend to be higher than normal for a particular power setting.

In order to locate the dirt and eliminate it, disconnect the fuel lines at the cylinders and attach small bottles to the individual lines at the intake port locations. Set the mix-

ture to full rich and turn the boost pump on (or wobble the pump) and run fuel into the bottles until a sufficient amount has accumulated for comparative purposes. If any of the bottle levels are noticeably lower than the others, it calls for cleaning of the corresponding nozzle, line, or flow divider. Also observe the flow pattern of each nozzle. Any irregular flow should be investigated. As part of an annual inspection, it's good to clean the nozzles as a preventative measure. An overnight soak in Hoppe's gun cleaning solvent seems to be the trick of the trade. However, if the nozzles are of different sizes, clean them individually to make sure you will be able to get them back in the right cylinder. *Never use wire or any hard object to clean a nozzle.* In addition to being a great time for preventive maintenance, your annual inspection provides an

opportunity to make sure all relevant bulletins have been complied with. For example, Lycoming SB 342E deals with support clamp inspection and installation of fuel lines in all Lycoming fuel-injected engines. It talks about minimum bending radii, placement of support clamps, typical breakage points (solder joints), and the inspections that must be done and noted in the logbook. Check that your logbook has a reference to this bulletin.

Integrating these steps into a detailed maintenance program for your airplane will help ensure that the rpm is there when you need it! ☺

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Compiled by Bruce Johnson

MISHAPS BY MONTH

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2006	0/0	1/2	1/1	1/0	1/1	1/0	0/0	1/0	0/0	1/1	1/1	1/2
2007	0/0	0/0	1/1	0/0	0/0	1/2						

MISHAPS BY YEAR

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Mishaps	20	26	21	24	20	18	12	9	15	9	10	16

Numbers depict accidents/fatalities of total accidents in the U.S. by aerobatic aircraft. Accidents included are only those which occurred during aerobatic maneuvering (including air shows) or during an IAC-sanctioned competition.

Through the first seven months of this year there have been only three fatal aerobatic mishaps. All were altitude related with two being in air shows. The most recent fatal accident occurred at the Dayton Air Show. The National Transportation Safety Board (NTSB) has not yet released its preliminary report, so that accident is not covered here. The formal and specialized training received by responsible aerobatic pilots is a major contributing factor to our safety record. Let's keep up the good work—fly safely!

PRELIMINARY

Accident occurred Sunday, June 24, 2007, in Wallkill, New York.

Aircraft: Syracuse Van's RV-4, Registration: N14VS

Injuries: 2 Fatal

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed. On June 24, 2007, about 1837 Eastern Daylight Time, an amateur-built Van's RV-4, N14VS, was substantially damaged while maneuvering near Wallkill, New York. The certificated commercial pilot and passenger were fatally injured. Visual meteorological conditions prevailed for the flight that departed Orange County Airport (MGJ), Montgomery, New York, about 1700. No flight plan was filed for the local personal flight conducted under 14 CFR Part 91.

A witness was standing outside of his residence and observed the accident airplane. The witness stated that the airplane was flying north, approximately 250 feet AGL. The airplane performed a barrel roll and then entered a loop. The airplane completed about half of the loop, then dropped from the top of the loop, spun to the right, and descended rapidly into a field.

The reported weather at MGJ, at 1854, was as follows: wind from 240 degrees at 6 knots; visibility 10 miles; sky clear; temperature 81°F; dew point 54°F; altimeter setting 30.05 inches/Hg.

FINAL

Accident occurred Tuesday, March 21, 2006, in Greenfield, California. Probable Cause Approval Date: June 27, 2007

Aircraft: Extra Flugzeugbau 300S, Registration: N124X

Injuries: 1 Fatal

At the conclusion of a Title 14, CFR Part 91 flight, the commercial certificated pilot was landing an experimental/exhibition airplane at a rural airport after performing about 20 minutes of aerobatic flight in a nearby aerobatic practice area. Witnesses reported that the airplane appeared to fly a left (southeast) downwind pattern, paralleling the runway. Near the approach end of the runway, the airplane made a right turn of about 45 degrees, away from the runway, and then made a steep left turn, toward the runway. The airplane was then observed to level the wings and descend toward the ground with about a 10-degree nose-down attitude. The airplane collided with the ground in what witnesses described as a flat, level attitude with a high vertical velocity.

The airplane bounced and struck the ground a second time, coming to rest within about 50 feet of the initial impact point, and about 15 degrees to the right of the runway heading. The airplane came to rest about 100 feet to the right and about 850 feet past the approach end of the runway. Inspection of the airplane disclosed no evidence of any pre-impact mechanical anomalies.

The NTSB determines the probable cause(s) of this accident as follows: The pilot's failure to maintain adequate airspeed during the base leg to final approach phase of a visual flight rules landing pattern, which resulted in an inadvertent stall and an uncontrolled descent. A factor contributing to the accident was the inadvertent stall/mush.

CALENDAR OF EVENTS

Harold Neumann Barnstormer (South Central)

Friday, September 7 - Saturday, September 8, 2007
Practice/Registration: Thursday, September 6
Rain/Weather: Sunday, September 9
Power Categories: Primary Sportsman Intermediate
Location: New Century Airport (KIXD): Olathe, KS USA
Director: Paul Thomson
Phone: (913) 638-6221, **E-Mail:** info@iac15.org
Enterprise Rent-A-Car available at this location.

Illinois State Open (Mid-America)

Friday, September 7 - Sunday, September 9, 2007
Practice/Registration: Friday, September 7
Power Categories: Primary, Intermediate and Unlimited
Location: Illinois Valley Regional Airport (VYS): Peru, Illinois
Director: Bob Hart • **Website:** www.IACChapter1.com
Phone: 815-363-8967, **E-Mail:** hrlndfrm@aol.com
Enterprise Rent-A-Car available at this location.

Apple Turnover (Northwest)

Friday, September 7 - Saturday, September 8, 2007
Practice/Registration: Thursday, September 6
Rain/Weather: Sunday, September 9
Power: Primary through Unlimited
Location: Ephrata Municipal Airport (EPH): Ephrata, WA
Director: John Smutny and John Pierson
Phone: 206-248-2650, **E-Mail:** johnsmutny@yahoo.com
Website: www.iac67.org

East Coast Aerobatic Contest (Northeast)

Saturday, September 8 - Sunday, September 9, 2007
Practice/Registration: Friday, September 7
Power: Primary through Unlimited
Location: Warrenton-Fauquier Airport (W66): Warrenton, VA
Director: Scott Francis
Phone: 703-618-4132, **E-Mail:** s.francis@ieee.org

2007 U.S. NATIONAL AEROBATIC CHAMPIONSHIPS

Sunday, September 23 - Friday, September 28, 2007
Practice/Registration: Sat., Sept. 22 - Sun., Sept. 23
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Grayson County Airport (GYI): Sherman/Denison, TX
Director: Bob Stark
Website: www.usnationalaerobatics.org/USN2007/home.htm
Phone: 920-426-6574, **E-Mail:** iac@eaa.org

Rocky Mountain Invitational (South Central)

Saturday, October 20 - Sunday, October 21, 2007
Practice/Registration: Friday, October 19
Glider Categories: Sportsman through Unlimited
Power: Primary through Unlimited
Location: Lamar Municipal Airport (LAA): Lamar, Colorado
Phone: 303-648-0130, **E-Mail:** jamiетreat@hughes.net
Director: Jamie Treat • **Website:** www.IAC5.org

Mason-Dixon Clash (Northeast)

Friday, October 19 - Sunday, October 21, 2007
Power: Primary through Unlimited
Location: Farmville Regional Airport (FVX): Farmville, VA
Phone: 919-349-0057, **E-Mail:** jwslim1@aol.com
Director: Jim Walker • **Website:** www.IAC19.org

Borrego Akrofest (Southwest)

Friday, October 19 - Saturday, October 20, 2007
Power: Primary through Unlimited
Location: Borrego Valley Airport (L08): Borrego Springs, CA
Director: Ron Rapp • **Website:** www.IAC36.org
Phone: 714-743-0360, **E-Mail:** ron@rapp.org

Sebring Aerobatic Championships (Southeast)

Thursday, November 8 - Saturday, November 10, 2007
Practice/Registration: Sat., Nov. 3 - Wed., November 7
Power: Primary through Unlimited
Location: Sebring Regional Airport (SEF): Sebring, Florida
Phone: 561-734-1955, **E-Mail:** soaerobatics@aol.com
Director: Mike Mays

Tequila Cup Regional Aerobatic Contest (Southwest)

Friday, November 9 - Saturday, November 10, 2007
Practice/Registration: Thursday, November 8
Glider: Sportsman through Unlimited
Power: Sportsman, Intermediate, Advanced, Unlimited
Location: Marana Regional Airport (AVQ): Marana (Tucson), AZ
Phone: 520-887-9399, **E-Mail:** hollandsaac@comcast.net
Director: Marylnn Holland

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