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Experimental Aircraft Association Chapter 33

A monthly publication of the Dr. Alexander M. Lippisch Chapter of the Experimental Aircraft Association, Cedar Rapids, Iowa.

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Tragic Week for Iowa Fliers

The last week in March was a tragic week for Iowa fliers. There were three fatal air crashes that week. One of those crashes claimed EAA members Dave Culbertson & Steve Redman.

David Daniel Culbertson, the son of Garry and Kathy (Kuyper) Culbertson, was born October 19, 1966, in Estherville, Iowa. He passed away Sunday, March 27, 2005, as the result of injuries sustained in an airplane accident near Iowa City, Iowa, at the age of 38 years.

David was confirmed at the United Methodist Church in Estherville. He received his education in the Estherville schools, graduating from Estherville High School in 1985. Later he attended Hawkeye Technical Institute in Waterloo, Iowa.

In September of 1987, David was united in marriage to Nancy Phillips. He was employed by Rockwell Collins in Cedar Rapids, Iowa. While employed there he received his Master's Degree in Systems Management from Iowa State University. In his leisure time David enjoyed hunting, fishing, flying and most importantly, spending time



with his family. He was a member of the Wesley United Methodist Church in Vinton, Iowa. Grateful for having shared David's life are his daughter, Hannah Culbertson; his parents, Kathy and Garry Culbertson of Estherville; sister, Laura Manwarren and her husband, Shannon of Spencer, Iowa; two nieces, Randi, Madison; and two nephews, Tanner and Blake.

Steven R. Redman, 48, of 1670 Pleasantview Dr., Marion, IA, died Sunday, March 27, 2005, as a result of an airplane accident near the Iowa City airport. Services were held Thursday, March 31, 2005, at St. Paul's united Methodist church, cedar rapids, by the rev. Brian Milford.

Survivors include his wife, Sandra; his parents, Robert and Ruby Redman of Lafayette, Indiana; a brother, David Redman and wife Betty of Indianapolis, IN; and his dog, Murray. Steve was born November 5, 1956, the son of Robert and Ruby Poindexter Redman in Lafayette, Indiana. On June 18, 1994, he was united in marriage to Sandra Lee in Marion, Iowa. Steve worked for Rockwell Collins as a strategic sourcing manager and had previously owned Hutton's pet store. He was a member of many aircraft clubs, including the Cub Club, EAA and Stearman's Restoration Association. Steve also belonged to the Collins leadership club and was a Rockwell Collins k-12 volunteer. Steve had many hobbies including piloting and owning a 1940 Stearman, rebuilding a 1940 ford coupe and riding his 2003 soft tail deuce Harley. He enjoyed golf, tennis, softball, football, volleyball and scuba diving. Steve also enjoyed playing the guitar and video games. He loved music, photography, traveling internationally and was a great mentor and friend to many. Instead of flowers, memorials may be made to the Stearman's Restoration Association in memory of Steve.

Read Back - Mountain Flying Bible and Flight Operations Handbook

By Jim Meade, CFH

In the spring of 2003, my daughter Alena and I flew a Cessna Cutlass to visit some colleges in the Los Angeles area. While enroute, I gave her most of the flight instruction for her instrument ticket. She got several hours of actual, including an ILS and NDB approach in IMC. I had no experience with flying in the mountains, so in preparation for the flight, I talked with a number of pilots who had flown our route and I bought a book called "Mountain Flying Bible and Flight Operations Handbook" by Sparky Imeson.

For the purposes of our flight, I wanted to know about mountain flying from the perspective of a cross-country traveler. Sparky's book covers nearly every phase of mountain flying, so many of you, like me, will not read it cover to cover. In addition, he reviews much information we think we're already familiar with. Don't be tempted to pass over the basics too quickly, as he brings a particular altitude flying perspective to information we flatlanders take for granted. For example, he points out how easy it is to choose a wrong natural horizon while flying in sloping terrain, and therefore unconsciously stay in a climb that erodes your airspeed.

Imeson organized the book in the sequence we would use for an actual flight. He uses five major sections; preflight, takeoff, enroute, arrival and landing. Using this approach means that some topics seem to be covered more than once. For example, he talks about weather in each stage but with a different point of view. If you read the book straight through as if you were planning the flight this makes sense, but if you are searching through the book for all the information on a specific topic it might confuse you until you get used to the layout.

For our trip, I was most interested in the en route portion of his book. He deals extensively with weather. We encountered a roll cloud on an IFR approach to Phoenix and I was glad I had refreshed my basic weather knowledge as it helped me diagnose our situation when we had difficulty maintaining assigned altitude. A Cessna Cutlass is a 172 with 180 hp engine, retractable gear and constant speed propeller. I can affirm that it will not maintain 12,000 feet when lightly loaded in a big roll cloud. Imeson also describes the typical clouds you will see when flying in the mountains and translates what the clouds can tell you about the winds and moisture into information you can use to fly safely and efficiently.

Flatlanders get blasé about density altitude, so I was glad I had reviewed that section when we took off from Double Eagle in Albuquerque. My daughter rotated as she would have departing Cedar Rapids and we mushed along nose high till for a bit until we recognized our error and climbed out at a lower pitch attitude than we were used to.

Those of you who have dreamed of taking your plane into mountain fishing or hunting sites will be pleased that Imeson has included massive amounts of information on takeoffs and landings on all kinds of strips. The pictures he includes of some primitive strips grab your attention even from your arm chair. Imagine what it would be like to fly into one of them with an approach through a canyon.

If you are like me, your first inclination to canyon flying might be to fly right down the center, but he points out a number of reasons why it is often better to fly on one side or the other. For one thing, if you decide you have to turn around, you will have more room to work with if you start from the side than if you try to turn from the center. He explains why the air is often quieter or at least more stable on one side of the canyon than in the middle.



Being forced down in the mountains is something that we all worry about when flying over that unforgiving terrain. While his book is not a survival guide, it does include copious material on how to make the most of a bad situation in choosing a landing site and staying alive until you are rescued.

Imeson annotates his text copiously with icons to alert you to things you should remember, warnings, rules of thumb and other highlights. There are many photographs, graphs, charts and drawings to illustrate his descriptions.

I found two things I took from this book. First, it reinforced some things I already knew but put them in the perspective of the density altitude and weather one may face in the mountains. Second, it surprised me with how wrong I was about some intuitive approaches to flying in an environment I am unfamiliar with.

Whether you are planning a mountain adventure or just arm-chair flying, "Mountain Flying Bible and Flight Operations Handbook" copyright 1998, 2001, is interesting to read and gives you some insight into a specialized facet of aviation. Aurora Publications ISBN 1-880568, widely available at online bookstores for \$28.95. Recommended.

Wing Upper Surface Ice Accumulation Alert

The National Transportation Safety Board has long been concerned about the insidious nature of the effects of small amounts of ice accumulated on an airplane's upper wing surface. For years most pilots have understood that visible ice contamination on a wing can cause severe aerodynamic and control penalties; however, it has become apparent that many pilots do not recognize that minute amounts of ice adhering to a wing can result in similar penalties. Research results have shown that fine particles of frost or ice, the size of a grain of table salt and distributed as sparsely as one per square centimeter over an airplane wing's upper surface can destroy enough lift to prevent that airplane from taking off.

According to wind tunnel data, a wing upper surface roughness caused by particles of only 1-2 mm [millimeter] diameter [the size of a grain of table salt], at a density of about one particle per square centimeter, can cause lift losses of about 22 and 33 percent, in ground effect and free air, respectively. Research has shown that almost imperceptible amounts of ice on an airplane's wing upper surface during takeoff can result in significant performance degradation.

Ice accumulation on the wing upper surface is very difficult to detect.. It may not be seen from the cabin because it is clear/white and it is very difficult to see from the front or back of the wing. The Safety Board believes strongly that the only way to ensure that the .wing is free from critical contamination is to touch it. From an aerodynamic viewpoint, there is no such thing as "a little ice." Strict attention should be focused on ensuring that critical aircraft surfaces are free of ice contamination at the initiation of takeoff.

Strange as it may seem, a very light coating of snow or ice, light enough to be hardly visible, will have a tremendous effect on reducing the performance of a modern airplane.

It appears that some pilots believe that if they cannot see ice or frost on the wing from a distance, or maybe through a cockpit or cabin window, it must not be there - or if it is there and they cannot see it under those circumstances, then the accumulation must be too minute to be of any consequence.

Despite evidence to the contrary, these beliefs may still exist because many pilots have seen their aircraft operate with large amounts of ice adhering to the leading edges (including the dramatic double horn accretion) and consider a thin layer of ice or frost on the wing upper surface to be more benign. However, as noted, research has shown that small amounts of ice accumulation on the upper surface of a wing can result in aerodynamic degradation as severe as that caused by much larger (and more visible) ice accumulations many pilots believe that if they have sufficient engine power available, they can simply "power through" any performance degradation that might result from almost imperceptible amounts of upper wing surface ice accumulation. However, engine power will not prevent a stall and loss of control at lift off, where the highest angles of attack are normally achieved.

Further, small patches of almost imperceptible ice or frost can result in localized, asymmetrical stalls on the wing, which can result in roll control problems during lift off. The Safety Board notes that there are circumstances in which upper wing surface ice accumulation can be difficult to perceive visually.

For example, depending on the airplane's design (size, high wing, low wing, etc.) and the environmental and lighting conditions (wet wings, dark night, dim lights, etc.) it may be difficult for a pilot to see ice on the upper wing surface from the ground or through the cockpit or other windows. Further, frost, snow, and rime ice can be very difficult to detect on a white upper wing surface and clear ice can be difficult to detect on an upper wing surface of any color. However, it is critically important to ensure, by any means necessary, that the upper wing surface is clear of contamination before takeoff. That is why the Safety Board recently issued Safety Recommendation A-04-66, urging pilots to conduct visual and tactile inspections of airplane wing upper surfaces.

The bottom line is that pilots should be aware that no amount of snow, ice or frost accumulation on the wing upper surface can be considered safe for takeoff. However, history has shown that with a careful and thorough preflight inspection, including tactile inspections and proper and liberal use of deicing processes and techniques, airplanes can be operated safely in spite of the adversities encountered during winter months.



Presidential Words

By Tim Busch

It is said that if you are in this business long enough, you will know people who die. I think the saying originated in the military, but it is no less true in general aviation. One of my students reminded me that even though we know people who die in car accidents, we still drive to work every day. It isn't the flying that is the problem. It is the loss of people. People we know and care about and love. The best thing we can do is study those who have gone before us and learn from their experiences.

Steve Redman and Dave Culbertson were EAA members, Rockwell employees and fellow aviators whom I knew and respected. Both were competent pilots from my perspective. It will be some time before we know exactly what happened on Sunday, May 27th, the worst 24 hour period for general aviation in Iowa in my memory. Whatever the cause, and there always is a cause, I want all of us to learn so this never happens again. We pilots, family members, and representatives of an entire industry, can not afford the price of life. Absolute safety is not just a goal. It is a mandate. We can not accept anything less than a perfect record.

Dave Culbertson was in the process of bringing a well-known aerobatic name to the area to do give aerobatic dual flight instruction. Many of you may remember the Turbo Raven hovering, hanging on the prop, before continuing a vertical climb. When I let Wayne know of the accident, he sent me this picture of Dave and Steve. Enjoy.

There were three fatal accidents in a 24 hour period. All three appeared on the surface to be stall-spin accidents, probably for three different reasons. I've talked before about the need to get periodic training to prevent your skills from deteriorating. Ladies and gentlemen, take heed. Get training. If you haven't flown for most or all of the winter season, get some dual instruction. How many hours have you flown in the past year? Less than 40 or 50, and the insurance companies will tell you; you are at risk for an accident.

Last Meeting - Free Flight Airplanes

By David Koelzer

For March we got a little taste of indoor flying with rubber band powered free-flight models. We meet up with model builder and flier Jon McVay at the Mt. Vernon High School Gym. However, school officials had failed to inform Jon of a volley ball tournament schedule over the top of the his club's usual flying time. Jon lamented that gym lobby was not suitable for model flying because of "low ceilings". Fortunately, the tournament was winding down as we began to arrive for our Chapter meeting so we were still able to get air time round the courts. Jon demonstrated several of his rubber band and electric powered models including one tail-dragger model which could consistently perform wheel landing far better than I have ever been able to master in my Sonex but then again I have never gotten my Sonex stuck in the over head light fixtures. May thanks to Jon McVay as well as Steve Beck and John Banes for organizing this meeting.



Next Meeting

By Tim Busch

There will be no April meeting. With Steve and Dave's passing, we just couldn't muster the fortitude to put together a plan. Let's get together again in May.

Editor's Rant

By David Koelzer

The NTSB reported that 2004 was general aviation's safest year yet. GA accidents decreased from 1,741 in 2003 to 1,614 in 2004. There were 312 fatal accidents, down from 352. The accident rate decreased from 6.77 per 100,000 flight hours in 2003 to 6.22 in 2004. The fatal accident rate decreased from 1.37 to 1.20. According to the Air Safety Foundation's database and analysis, that's the lowest number of accidents and the lowest accident rate since 1938.

Sadly though, 1.20 fatal accidents per 100,000 flight hours is still 1.20 accidents too many and as we found out a couple of weeks ago, Iowa pilots are not immune from fatal accidents.

Anyone who knew Steve or Dave knows that they were not careless, nor clumsy nor reckless pilots. Both were serious, careful and contentious pilots. We all should not fool ourselves into believing that an accident could never happen to us. Accidents can happen to anyone but it is up to us to try our best to keep accidents to a minimum and to give ourselves as much of a safety margin as possible. Our perseverance and attention to detail are still our best safety tool. It may be cliché but it is as true today as ever: "Safety is no Accident".

Fly Market

FOR SALE: 74x48 Wood prop (Cont), Exhaust w/ Heetmuf 65-100 HP Cont, Exhaust for Rotax 503-582, Cessna Parts, Battery box w/ solenoid, Fenderpants for 120-170, Hood latch-New, Custom instrument panel for 140, Fenderpants for 150-182 for Piper pazz, Wing parts, Instrument panel, Control wheels, Master switch, Seats, Intercom w/2 Head sets, V.W. engine w/carb, Mag, Prop and Prop-Hub, Wing & Tail covers w/ formers for U.V., 600X6 Wheels & Brakes. Contact John Banes 319-846-2033 banesc@inav.net





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In The April 2005 Issue...

Dave Colbertson & Steve Redman, Read Back - Mountain Flying

Chapter 33 Calendar

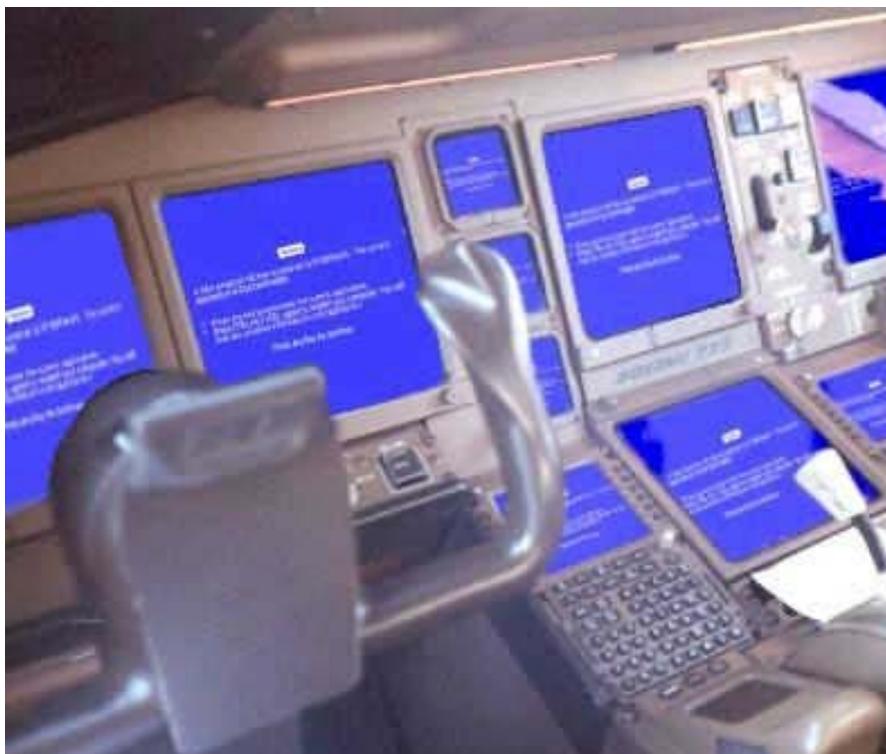
April 12-18 Sun-n-Fun, Lakeland, Florida

April 16 Fly-in Pancake Breakfast
ISU Flying Cyclones / Haps Air Service and the Visionair EV-10 jet will be on display. Ames, Iowa Municipal Airport

April 24 15th Fly-in/ Drive-in Breakfast Hosted by: The University of Dubuque Flight Team, Dubuque, Iowa Regional Airport

May 5-7 Pella Tulip Time Flight Breakfast. Shuttle available to Festival. Pella, Iowa Municipal Airport

May 14 Open House, Young Eagles Vinton, Iowa Municipal Airport



Microsoft demonstrates new FlightDeck software