MIDWEST FLYER MAGAZINE

AUGUST/SEPTEMBER 2014

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Contents

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August/September 2014

ON THE COVER: The new Zenith CH 750 Cruzer is an economical, all-metal, two-seat, cross-country, Light Sport Aircraft (LSA) kitplane. It is the "on-airport" version of the popular STOL CH 750 "off-airport" light sport utility kitplane, famous for its roomy cabin and comfortable side-by-side seating with easy cabin access from both sides of the aircraft. The CH 750 can operate on a UL350iS, 130 hp, fuel injected UL-powered engine; Continental O-200; Rotax 912 series; Viking (Honda); Jabiru; Corvair; and other engines. The aircraft has a cruise speed of 118 mph, rate of climb of 1,200 fpm, and a stall speed of 39 mph. The Zenith Aircraft Company is located in Mexico, Missouri.

(Photo Courtesy of Zenith Aircraft Company: www.zenithair.com.)

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Why Should You Care?

by Dave Weiman

As members of the aviation community, we share a common bond, regardless of our specific interests. For instance, if an issue comes up and it affects instrument approaches at the local and you do not have an instrument rating, you should still support your fellow pilot who does have an instrument rating, and your airport manager and fixed base operator who are trying to improve services. Don't have a private airport, but an issue comes up that affects the airspace around private airports? Come to the aid of your fellow aviator to protect his airspace.

The airport manager in your community is getting flack over extending the runway. Should you stick your head in the sand, or your neck out, even though your taildragger only needs a third of the length, and you prefer grass over pavement? You should take the opportunity to speak at the next public hearing, and call local decision-makers to tell them of the benefits of a longer runway for business, recreation and economic development.

All too often we don't consider the other guy in aviation and issues facing them. We tend to stay in our own little worlds until which time we could use the support of our fellow aviators. As aviators, we have a common bond regardless of the issue.

Welcome Northland Aerospace

Over the next year, you will see articles in *Midwest Flyer Magazine* from aviation instructors at Minnesota State Colleges and Universities (MnSCU), who are helping to guide students to lifelong, fulfilling careers in aviation and aerospace.

Unmanned Aircraft Systems (UAS) is one innovation, which is creating some exciting possibilities for future technicians, and Northland Community and Technical College is meeting this educational need.

Northland launched the nation's first UAS Maintenance Training Program in 2011 from its long-standing (since 1959) Aviation Maintenance Technology, Airframe and Powerplant (A&P) Program.

In 2013, Northland launched the nation's first two-year technical program to train "imagery analysts" to process the large amounts of data that is produced from various platforms, such as satellites, traditional aircraft and Unmanned Aircraft Systems.

Through cooperation, education and regulation, Unmanned Aircraft Systems will eventually be integrated into the national airspace system, and Northland Community and Technical College will help accomplish this. *Read more beginning on page 54.* ❑

MIDWEST FLYER MAGAZINE
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Dave:

Reading *Midwest Flyer Magazine* has been a must for me for many decades; it's the first thing I look for in an airport lobby while on layover. Hence, I'm very familiar and appreciate your interest in promoting the **Iowa Aviation Museum.** Don't know if you've been here before, so a little bit of history.

The museum was the idea of long-time Piper distributor, Howard Gregory (Des Moines Flying Service, Chicago Piper, and HondaJet Midwest), who dedicated it to those fixed base operators (FBOs) whose blood, sweat and tears promoted general aviation in Iowa. Now in our 24th year, later this year we will be dedicating a plaque to the "Second Generation FBOs," many of whom are the sons and daughters of the pioneer FBOs.

Iowa Aviation Museum

In 1989, Yvonne Schildberg donated the majority of her husband's (John E. F. Schildberg) vintage airplane collection and the museum was off and running.

Last summer when we introduced our "Taking Flight in a New Direction" effort, the first resolution was to rename the museum the Iowa Aviation Museum located at John E. F. Schildberg Field. The second was to name Yvonne Schildberg as "Board Member Emeritus." Yes, Yvonne is still very active at the museum. You'll be able to see and visit with her at every fly-in.

The board of directors is currently taking on the day-to-day operations, which includes a reorganization of virtually every aspect of what comprises the Iowa Aviation Museum. As part of our new program, we have revamped the membership program, inviting everyone to "Climb on Board" by becoming a "Crew Member;" introduced a new Hall of Fame selection process; and much, much more.

The most exciting change involves the display of the Iowa men, women and machines, which have contributed so much to aviation. In the past, we were only able to display (aircraft and memorabilia); now, our focus is to tell the story of everything within our walls. To this end, we've received a grant to begin researching the men, women and machines, and creating new, contemporary exhibits.

In conjunction, we are undertaking our first ever inventory of everything within the museum. This will allow constant rotation of displays, which we will publicize to our members and visitors through our all-new website and publications, such as yours.

We are excited to be able to introduce young people to aviation in a fashion that will peak their interest. Aviation needs new blood and we view this as our responsibility and we take this seriously.

We have so many one-of-a-kind items from the oldest Curtiss-Robin, to the original newspaper articles describing Buddy Holly's crash. We are packaging this material to create interest for everyone and interest is catching on.

For the first time current members of the **Iowa Aviation Hall of Fame** selected who should join their ranks. Plans are underway for a huge fall ceremony with many of the descendants in attendance.

On June 2, 2014, I announced at the Cedar Falls Rotary Club that this year's inductees to the Iowa Aviation Hall of Fame are the three participants in the Doolittle Raid of 1942.

The Hall of Fame section of the website depicts the courageous Iowa men and women who have given so much in their contributions to aviation.

(For instance), few know that the Wright brothers owned land just a few miles northwest of the Greenfield airport and sold the land in 1902. Take a look at the museum's website: **www.flyingmuseum.com.**

Yes, it's an exciting time at the museum, so please "climb on board" as we "take flight in a new direction." We could certainly use your help in getting the word out.

As a thank you, we are making you a complimentary "Crew Member," so watch your mail for your crew card. Once again, thanks for everything and please stop in and see us.

Dick Westbrook
Vice President/Treasurer
Iowa Aviation Museum
Iowa Aviation Hall of Fame
Greenfield, Iowa

EDITOR'S NOTE: The Iowa Aviation Museum will hold its 22nd Annual Wings Fly-In/Drive-In on Sunday, August 24, 2014, from 7:30 to 11:00 am. Purchase of meal includes free admission to the museum until 12:00 noon (www.flyingmuseum.com). ❑

Ask Pete!

by Pete Schoeninger

Email your questions to Pete@Flymilwaukee.com


Pete Schoeninger

Q: I'm thinking about buying my first airplane and wonder what your opinion is about buying a tricycle gear versus a tailwheel airplane?

A: For most pilots and most situations, the tricycle would be my recommendation. Tricycle gear airplanes are easier to control on the ground, particularly in strong gusty crosswinds, and thus safer, in my opinion.

Now, having said that, tailwheel aircraft are more fun, and I admit some of my happiest flying hours involved various Cubs, Cessna 170s, etc. in off-airport operations; stuff that you might not want to do in a tricycle gear airplane. But we don't do much of that any more…sadly!

Also, if you look at production numbers from 1981, the last year Cessna offered Cessna 180s (tailwheel) production…the almost identical Cessna 182 outsold the Cessna 180 by a ratio of about 10 to one! So clearly the market then preferred tricycle gear.

Best to contact your insurance agent as you may find insurance premiums for similar valued airplanes higher for tailwheel aircraft, compared with tricycle airplanes.

Q: I own a car body shop and a Cessna 182 that needs paint. Rather than pay an aircraft paint shop $12,000 for a paint job, can't I take off my wings, truck my plane to my shop, and strip and paint it myself?

A: Yes, with qualifications. You will want to consult with your friendly aircraft mechanic as disassembly, surface preparation, and particularly reassembly must be done properly. You'll need his guidance for balancing control surfaces, and his approval of everything you do, and his sign off in your maintenance records. Additionally, you and he may find minor problems on the airplane skin that need repair, which he will have to address. ❑

One Disqualifying Condition Is All It Takes To Be Denied A Medical Certificate

by Greg Reigel

Greg Reigel

When you are dealing with a medical certification issue, it is important to ***"pick your battles carefully"*** based upon the facts and proper procedure. This situation was highlighted in a National Transportation Safety Board (NTSB) case, *Petition of Cooper,* which involved an airman's appeal of the FAA's denial of his application for a first class medical certificate. The FAA denied the application based upon the airman's "history and clinical diagnosis of diabetes mellitus requiring oral hypoglycemic medication for control and bipolar disorder." The FAA cited 14 C.F.R. §§ 67.113(a)(b)(c), 67.213(a)(b)(c), and 67.313(a)(b)(c) in support of its denial (all three regulations identify diabetes mellitus as a disqualifying condition, although Section 67.113(a)(b)(c) is the regulation specifically applicable to a first class medical certificate). However, the FAA did not cite 14 C.F.R. §§ 67.107, 67.207, nor 67.307, even though those regulations identify bipolar disorder as a disqualifying condition.

The airman appealed the denial to NTSB. However, the administrative law judge ("ALJ") dismissed the airman's petition and terminated the case on his own accord without holding a hearing and without any request from the FAA for such a dismissal. The ALJ concluded that a hearing "would serve no useful purpose" because the Board did not have the discretion to reverse the FAA's denial. The ALJ also rejected the airman's argument that he did not have bipolar disorder as moot because the airman had admitted to having diabetes mellitus, a specifically disqualifying condition. Of course the airman then appealed the dismissal to the full Board.

On appeal the airman argued that the ALJ erred when he determined that the FAA's denial of his application based on bipolar disorder was moot in spite of his diagnosis of and treatment for diabetes. The airman contended that whether he had bipolar disorder was a factual issue that the ALJ must resolve after a hearing, and that bipolar disorder is the only condition that might disqualify him since he would otherwise meet the criteria for a special issuance medical under Section 67.401 in spite of his diabetes mellitus.

The Board agreed with the ALJ. It held that the diabetes mellitus was a specifically disqualifying condition and that alone justified the FAA's denial of the airman's application for a first class medical certificate. The Board noted that whether the airman qualified for a special issuance in spite of the diabetes mellitus was not an issue before it. Finally, the Board concluded that although the airman had presented evidence that potentially refuted the allegation that he suffered from bipolar disorder, the issue was moot in light of the diabetes mellitus.

The Board's decision is not a surprise. When an airman is denied a medical based upon an admitted disqualifying condition, an appeal will, in almost all cases, be unsuccessful. In that situation, the only recourse for a denied airman is to seek a special issuance. If the FAA refuses to grant a special issuance, an airman may appeal that denial. However, since the Board defers to the FAA's discretion in denying a special issuance, the only way to be successful is to show that the denial is arbitrary or capricious (e.g. that the FAA has granted a special issuance in circumstances that are very similar to or identical with those of the denied applicant).

Fortunately for the airman in this case, he can still apply to the FAA for a special issuance and, if he meets the criteria, the FAA may grant a special issuance in spite of his diabetes mellitus. (This is what he should have done before appealing the initial denial). However, the airman may, unfortunately, still have to fight the FAA's determination that he has bipolar disorder. But if the airman is able to present evidence and facts that convince an ALJ that he does not suffer from bipolar disorder, the airman may ultimately be able to receive a medical certificate.

EDITOR'S NOTE: Greg Reigel is an attorney with Reigel Law Firm, Ltd., a law firm located in Hopkins, Minnesota, which represents clients in aviation and business law matters (www.aerolegalservices.com, 952-238-1060).

Email your questions or comments to: greigel@aerolegalservices.com. ❑

EDITOR'S NOTE: In the June/July 2014 issue, the caption of the photo in the article entitled "Connecting With The Past, While Helping Others Locate A WWII Veteran" was not correct. The correct captions are TSgt. Charles L. Berg *(left),* and S/Sgt. John A. Swearingen *(right).*

Does The FAA Trust Its AMEs?

by Dr. Bill Blank
Aviation Medical Examiner (AME)


Dr. Bill Blank

There are a number of selected medical conditions that are initially disqualifying for a pilot medical if the applicant does not meet the issue criteria, and must be deferred to the Aerospace Medical Certification Division (AMCD), located at the Civil Aerospace Medical Institute in Oklahoma City, Oklahoma, or to the Regional Flight Surgeon (RFS) for which the applicant resides (i.e. Great Lakes and Central Regions in the Midwest). If this is a first-time application for an Aviation Medical Examiner (AME) Assisted Special Issuance (AASI) for the applicable disease/condition, the examiner must defer and submit all of the requisite medical information necessary for a determination to the AMCD or RFS for the initial determination.

Following the granting of an Authorization for Special Issuance of a Medical Certificate (Authorization) by the AMCD or RFS, a local examiner (AME) may reissue a medical certificate to an applicant with a medical history of an initially disqualifying condition once the AASI's specialized criteria is met and the applicant is otherwise qualified. An examiner's decision or determination is subject to review by the FAA, however.

While this all sounds like a reasonable process, the system is bogged down with an overload of applications, and too few physicians in Oklahoma City, resulting in delays for first-time applicants for a special issuance. While an applicant may put up with this delay the first-time around, additional delays and required testing and retesting is usually enough to discourage the applicant from ever applying again, and he may quit flying, which is a disappointment for the applicant and a loss to aviation at a time of diminishing pilot numbers.

I estimate that when an FAA physician at the regional or national offices looks at the records on the computer of an airman requesting a special issuance, he might need about 20 minutes for a simple, straight-forward case when all of the records are there. The first problem is that the records may have been in the FAA's possession for 6-8 weeks before the physician even sees them. If the decision is favorable, there may be a delay in getting the response typed and back to the airman.

In the FAA's defense, almost 35,000 special issuances were issued in 2013. About 2/3 were for First and Second Class Medicals, which receive priority over Third Class Medicals. Only ten (10) FAA physicians based in Oklahoma City work on special issuances. Another problem is that as many as 60% of the requests arrive without all of the needed information, causing an additional delay. If the FAA receives all of the information requested, about 99% of the requested special issuances are eventually issued.

The FAA is certainly aware of the problem with delays and attempts are being made to speed up the process. In fact, the Aeromedical Division of the FAA monitors its delays every two weeks. So what is being done to speed up the process?

First, FAA physicians previously would never discuss an airman's medical application with him, but that has changed. In many cases today, a review officer will call an airman to ask him to fax additional information. This is a big time saver.

Second and probably more helpful, the FAA has been increasing the authority of local AMEs to initially issue medicals, including some, which previously required special issuance through Oklahoma City. This is being accomplished by the Conditions AMEs Can Issue (CACI) program.

Guidelines have been established and published in worksheets. These worksheets are available online. The airman's physician can complete the form and the airman can take it to his local AME. If the answers are satisfactory, the AME can issue a regular certificate then and there.

Currently, about 90% of airmen receive their certificates when they leave the office. Dr. James Fraser, the new Federal Air Surgeon, is hoping to reduce the 10% remaining to 5% via the CACI program. His plan is to greatly increase the number of conditions on the CACI list.

Currently there are 10 conditions, which can be issued via CACI and two others, "prostate" and "testicular cancer," which are not on the list, but which a knowledgeable AME can now initially issue. If you would like to learn more about this, you can find the most recent Federal Air Surgeon's Bulletin, Vol. 52, #2 online and read Dr. Fraser's article.

There are other possible solutions to the problem of delays. How about out-sourcing the backlog to specially trained AMEs? After all, the FAA physicians go to the same medical schools the rest of us do. If they can be trained, so could we.

Several years ago the FAA thought about training what were then going to be called "Super AMEs" to accomplish this. Unfortunately, the FAA's legal department decided this would be illegal!

An additional FAA concern is, of course, erroneously issued medicals. The FAA has 60 days to revoke such a medical. If they fail to do so within that time limit, legal action is required with the medical being in effect until the legal process is complete.

I have no idea how the need for "Third Class Medicals" will be resolved, but since almost 13,000 special issuances are issued for Third Class Medicals each year, decreasing this number would obviously help with delays and reduce costs for both airmen and the FAA.

However, part of the FAA's motivation to reduce delays, I think, is to avoid the delays from being used as a justification for eliminating Third Class Medicals.

I will comment here on the issue of certain pilots being able to fly without Third Class Medicals.

I suspect that the FAA does not like the "Sport Pilot" exemption and would rescind it if they could. Their problem is that while they know the number of Sport Pilots having

Continued on Page 13

Minimizing Cost Of Instrument Training

by Harold Green


Harold Green

Despite the advantages an instrument ticket offers, pilots are often reluctant to put forth the effort and expense to obtain an instrument rating. It is true that an instrument rating tends to be expensive. This is because, in general, the aircraft flown for instrument training are more expensive to operate than those used for the private ticket because of the avionics involved, larger engines, maintenance costs and insurance. However, there are some things pilots can do to minimize the cost of instrument training and we will attempt to present some of those in this discussion, and continue it in a subsequent issue. This first article deals with airplane control techniques and some basics of cockpit management. The second article will cover the operation of avionics and radio work.

Based on experience giving instrument instruction, I estimate that by developing the proper techniques before beginning actual instrument training, the average student can shave anywhere from 5 to 10 hours off the time to become proficient. Note: That is time to proficiency, not the regulation time of 40 hours of experience. Some of the items in this article have been stated in previous articles, but are repeated here out of necessity.

One of the basic requirements of instrument flight, and one of the first training goals, is to be able to **control airspeed and altitude** to predetermined values.

Piston engine general aviation airplanes are usually flown with one power setting and we accept the resulting cruise speed. When changing altitude, we reduce or increase power some indeterminate amount and go up or down at Vy or Vx or, maybe just at some arbitrary speed. There is nothing inherently wrong with this providing we honor all engine and aircraft speed limitations, stall speed, etc. In instrument flight the need is to set the airplane up for specific conditions of speed and altitude. In general, these speeds are: cruise, approach, climb and descent (i.e. maximum climb rate). Most general aviation aircraft can be trimmed to a specific airspeed and vertical speed for a given power setting and then flown hands off in calm air.

The key to this is controlling power and pitch to predetermined values, coupled with proper trimming.

To determine these values, data should be obtained while the airplane is trimmed to fly hands off in each condition. It is sufficient to pick one speed that would be appropriate to fly approaches, within the flap and/or gear operating range, and certainly less than cruise speed. This dramatically reduces pilot workload, particularly during the learning phase of instrument training. A typical, but not mandatory, number for light singles is 90 knots.

To do this, set up the airplane to a speed within the flap operating range by reducing the power while holding altitude. Once the desired speed is reached in the clean configuration, trim the airplane to fly hands off in level flight. This should be precise; not almost level and not almost at the desired airspeed, but exactly level and exactly the desired speed. Record the power settings in writing so you don't forget how you got there. Next, do the same thing in level flight for approach flap settings. If your airplane has non-welded gear with the gear down and retracted, record those settings separately. (Caution: Most autopilots do not like flaps beyond the first notch, so let's not try full flaps.)

Next, repeat this operation while descending at 500 feet per minute. You will often use different descent rates, but this will give you a starting point, and with experience, you will quickly be able to adjust power for different rates as the situation warrants.

When changing altitude at a given speed and flap/gear configuration, the airplane will tend to maintain the preset airspeed as power is adjusted because trim is speed sensitive and will try to maintain the same airspeed. This will be less the case with the gear and flaps extended. Any corrections will be minor. Remember pitch controls airspeed and power controls altitude. Practice using these settings, whenever you climb or descend. They will soon become second nature for you and you will be one step ahead when you begin your instrument training.

Now, the next thing to do is to begin attempting to ***hold altitude and heading*** precisely. Set a zero tolerance for yourself even though you probably won't hold it over long periods of time. But by aiming for it, you will be surprised at how much better you become. In order to even come close, it will be necessary to glance frequently at the altimeter and airspeed indicator.

Since head movement can induce vertigo, it is important to look without moving your head. Attempt to read gauges, charts, etc. with a minimum of head movement. To do this you may want to organize the cockpit with charts and checklists located so a minimum of head movement is required to acquire and read them.

One of the key elements of safe instrument flight is the ability to control the aircraft, manipulate the avionics and manage flight information simultaneously. (Somewhere along the line your instructor may have said, "When you can rub your head, pat your tummy, walk and talk and chew gum all at the same time, you are a pilot." This is what she/he was referring to.

Obviously this can pose a problem with attention span. The answer to this is called **scanning.** This means that the pilot must continuously scan the flight and engine instruments to maintain controlled flight. (We will leave the details of how to scan to your flight instructor).

To aid in this task, we need to minimize the time and attention spent on adjusting controls and reading the

result. Most of us look at a parameter, such as power setting while we move the throttle, until we achieve the desired result. If we do this while on instruments, we may very well find the airplane off on a new mission without our consent.

There is a relatively simple trick to aid in achieving such changes while reducing our workload. This can be learned during everyday VFR flying. The trick is to reach for the desired control without looking at it. Once your hand is on the control, before moving or activating the control, glance at it to ensure you are touching the correct control. Then without watching the results, move the control in the appropriate direction. When you think you may have completed the adjustment, stop moving the control and just glance at the parameter being changed, and again without even glancing at it until your movement stops, make any modifications necessary to achieve the desired result. This sounds far more cumbersome than it really is. What you are doing is keeping your attention on aircraft performance. That fact will be even more evident when you start working on that instrument rating.

The real advantage to this technique is that your attention is 90% on the flight instruments. Of course when flying VFR you are scanning outside for traffic rather than scanning flight instruments. Right? By the way, that is why a safety pilot is required when practicing instrument flight under the hood.

Everything in this discussion can be practiced safely while flying solo VFR. In fact by maintaining your attention on the airplane and maintaining precise control of it, you will be safer.

In the next issue, we will examine the means of ***minimizing pilot workload*** while operating avionics, communicating with controllers, navigating and maintaining safe flight.

EDITOR'S NOTE: Harold Green is a Certified Flight Instructor-Instrument (CFII) at Morey Airplane Company in Middleton, Wisconsin (C29). Email questions or comments to: harlgren@aol.com, or call 608-836-1711 (**www.MoreyAirport.com**). ❑

High On Health From Page 11

accidents, they don't know how many Sport Pilots are flying. Since they don't have a denominator, they can't calculate an accident rate to support their position.

I will now look into my crystal ball and speculate a little. The FAA got burned on the proposed changes to regulations affecting "Sleep Apnea." The agency was accused of being precipitous and not following procedures. That certainly won't happen with the Third Class Medical. They will wait and see what Congress does. If Congress doesn't act, neither will the FAA.

To return to the original question: Does the FAA trust its AMEs? I think the answer is yes, they do. By developing the CACI program, they are demonstrating this trust. But as you know, the government moves slowly, frequently too slowly, but at least progress is being made.

Certainly, my article here didn't solve the problem, but I hope it made you more aware of what is going on. By understanding the process a little better, you should be better prepared if you ever need a special issuance medical or a CACI.

Happy Flying! ❑

AOPA Great Lakes Regional Report

Have You Noticed Those Signs Everywhere? And, Will I See You Here?

News & Information You'll Want To Know In Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, North Dakota & South Dakota

by Bryan Budds
Manager, AOPA Great Lakes Region


Bryan Budds

Campaign signs. Yes, I have seen them everywhere in my home state of Michigan, as well, and it signals a time some love and some love to hate – election time. While it is easy to dismiss the signs and to only 'think' about researching or even meeting your candidates, let me ask you a few questions. Do you enjoy aviation? Love hopping in your plane and flying yourself or with a friend?

Have you ever stopped in at a local airport for a cup of coffee and a doughnut? Are you proud of the collegiate aviation programs in your state? The list could go on and on, but I think you get the picture that your state government, and in particular, your legislators, can have a huge impact on all these examples and many more.

So, when election time comes around, it is incredibly important to reach out to both your incumbent legislators and their challengers to remind them both of how general aviation is important to you personally and how aviation is important to the local community within their particular district.

Does your airport host Young Eagles events to grow the pilot population? Do you have an aircraft maintenance shop on the field? Does your airport serve emergency medical, firefighting, or law enforcement operations? Every airport has its important roles that both incumbent legislators and candidates need to know about!

Why do they need to know aviation is important, you may ask? Well, the answer is fairly simple. In 2015, when each state legislature in the Great Lakes convene, hundreds of bills, amendments, and other pieces of policy will be offered – many of which will impact general aviation. AOPA carefully tracks every piece of legislation offered on both the state and federal level and advocates accordingly. But if your legislators are aware of your interest in general aviation and its importance to the district, they may reach out to you, as a constituent and aviation-minded individual for your input.

With AOPA advocating on behalf of all pilots in your state, and your local voice, general aviation can be very well-represented both with reelected incumbents and with newly elected freshmen legislators. And, if after you talk with your incumbent legislator or candidate and would like AOPA to make a follow up visit, please let me know – this is what AOPA is here for!

Now, I wanted to talk briefly about some of the great aviation events we have going on in the region during the remainder of summer and the fall flying season.

First, the Wisconsin Flying Hamburger Social! I had the privilege to meet with Jeff Gaier, one of the founding members of the Wisconsin Flying Hamburger Social, earlier this year to hear about the great event Jeff and the group is building. The one-evening events provide a great opportunity for pilots across the area to experience new airports and make new friends as the event moves to a new airport each week. To learn more about the Wisconsin Flying Hamburger Social, **visit www.wiflysocial.com**

Second, the Michigan Air Tour! The Air Tour, an event put on by the Michigan Aviation Association, travels this year to Southwest Michigan Regional Airport (BEH), Manistee County – Blacker Field (MBL), and then to West Branch Community Airport (Y31) with the goal of increasing aviation awareness amongst not only the pilot community in Michigan, but amongst the non-aviators and civic leaders at each stop. To learn more about the Air Tour, visit **www.michiganairtour.com**

Third, I encourage you to visit the Erie-Ottawa International Airport in Port Clinton, Ohio. The airport has several new additions to the field including the Tin Goose Diner, Liberty Aviation Museum, and several new hangar complexes. With such a strong aviation community on the field, there are several great events including a remote control World War II aircraft show, Blue Grass Jam, and several EAA Chapter 1247-sponsored events. For more information on events at PCW, visit **http://www.portclintonairport.com/**

I hope to see you all at these events and many more! In the meantime, please let me know how AOPA can better serve you at **bryan.budds@aopa.org** ❑

Contact **Bryan Budds @ bryan.budds@aopa.org**

Future Fuels

Avgas is one of those things we love to hate. It's expensive. It's the last fuel in the U.S. to contain added tetraethyl lead. It's controversial, and it's absolutely vital to keeping some GA aircraft safely in the air.

But now, thanks to joint industry-government efforts, we're well on our way to getting a replacement that meets the needs of the GA community.

On July 1, the FAA closed a window to accept candidate fuels for testing as potential replacements for avgas. Nine different fuels were accepted for consideration, and now the FAA will begin the process of evaluating them.

The entire process is being conducted under the Piston Aviation Fuels Initiative (PAFI), which brings together the GA community, the petroleum industry, and the FAA. As a leading member of PAFI's steering group, AOPA is making sure the potential replacement fuels meet the real world needs of pilots and the aircraft they fly.

With the submissions closed, the next step is to look at all the proposed fuels and determine whether they can be produced and distributed widely, used safely, and sold cost effectively. And they must do all this with the least possible impact on the existing fleet.

Once it is determined that there are no show-stoppers based on those criteria, the most promising fuels will be selected for the first phase of laboratory testing, set to begin in September at the FAA's William J. Hughes Technical Center. The most successful fuels in those tests will then go on to full-scale testing in aircraft and engines.

The goal is to have a viable replacement for leaded avgas by 2018. And because all the stakeholders are working together right from the start to make sure key issues and concerns are adequately addressed, that's looking like an achievable goal.

Finding a replacement for leaded avgas may not capture the imagination the way some issues do, but it is vitally important. And the way industry and government are collaborating to get it right is a model for how we can efficiently address challenges facing GA. And that makes this milestone one worth celebrating.

Mark R. Baker
President & CEO, AOPA

*For more information on the Aircraft Owners and Pilots Association and the issues that affect your flying go to **www.aopa.org** today.

AOPA Central Regional Report

2014 Legislative Sessions Are Over... Now It's Time To Fly & Mingle!

News & Information You'll Want To Know In Kansas, Missouri, Nebraska & Iowa

by Yasmina Platt
Manager, AOPA Central Southwest Region


Yasmina Platt

The 2014 legislative sessions in the Central Region (Kansas, Missouri, Nebraska, and Iowa) have officially ended. Now it is time to reap the benefits of some AOPA-supported legislation passed this year, and enjoy the good flying weather.

Thanks to the initiative of an AOPA member, Kansas now exempts "amateur-built aircraft" (manned or unmanned aircraft fabricated and assembled by a person(s) who undertook the construction project solely for their own education or recreation) from property and ad valorem taxes, as they do with business aircraft and antique aircraft.

The Missouri legislature eliminated the 2015 expiration date of the sales tax exemption on aircraft parts (materials, replacement parts and equipment used for modification, replacement, repair or maintenance of aircraft, aircraft powerplants, and aircraft accessories). Without it (as we have seen in states where this exemption is not available), based aircraft, out-of-state aircraft, maintenance personnel and maintenance shops migrate to states with exemptions because their original states are not competitive, and business, and therefore revenue, is lost.

If approved by Missouri voters, a proposed amendment to the Missouri Constitution on the August 5th primary ballot would increase the state sales and use tax by 0.75 percent for 10 years starting in 2015 (excluding purchases that are currently exempt from state sales and use taxes, like aircraft maintenance, food, medicine and gasoline) to upgrade the state's transportation infrastructure, to include airports. The funds would be spent on projects identified by citizens and other stakeholders (comment period was closed on July 3rd). We have identified two dozen airport projects on the draft list with a total estimated cost of $40 million and I am waiting for the final list of projects as I write this article.

Unfortunately, Missouri's House Bill 1937 (amendment to the Recreational Use Statute to include aviation activities) came close to passage, but failed upon adjournment when the Senate ran out of time, so keep an eye out for next year as this will come up again.

John Collins, AOPA's Manager of Airport Policy, and I attended the Iowa Aviation Conference, where we had dinner with several Airport Support Network (ASN) volunteers to show our appreciation of their efforts and discuss their airport concerns.

Because of our increased member outreach and "meeting our members where they fly" philosophy at AOPA, we are getting around more to different airports and local aviation events. For example, I attended and spoke at the Missouri Pilots Association (MPA) Annual Convention during the last weekend in May in Boonville. I also attended the American Bonanza Society (ABS) Annual Conference in Wichita, where AOPA President Mark Baker was the keynote speaker on Saturday, and AOPA Foundation President Bruce Landsberg taught a safety seminar.

Following the ABS Conference, I participated in the National Biplane Fly-in in Junction City, Kan., where I had a great time mingling with pilots, discussing AOPA efforts and initiatives, and introducing our next generation of aviators to general aviation. We were also in Iowa in June, where we had a booth at the Fly Iowa 2014 event in Iowa City and the Marion Fly-in. Over 100 kids got a chance to sit in and touch the controls of the Archer we flew up.

I am scheduled to be in Iowa and Nebraska again later in July with the possibility of attending the Abel Island Splash-In/Fly-In, one of only two seaplane fly-ins in our region (the other is in Oklahoma). As always, you can stay up-to-date with my schedule and regional happenings via our Twitter page: **www.twitter.com/@AOPACentralSW.**

Don't know where to fly to this summer? I have compiled a list of "friendly regional airports" (airports with onsite restaurants, museums, playgrounds, camping, etc) that you can find on the region's website: **http://www.aopa.org/Advocacy/Airports-and-State-Advocacy/Central-Southwest.aspx.** Remember that you can also find local aviation events on the AOPA Calendar of Events: **http://www.aopa.org/Events.aspx.**

I encourage you to get out and fly. Take a friend, family member, or neighbor with you and explore the skies together and, whenever you have a chance, take kids up flying and show them what general aviation and flying is all about. They will remember the experience forever! ❑

Stay up-to-date with Yasmina - www.twitter.com/@AOPACentralSW

Standing Up For Airports

by Mark R. Baker
President & CEO, Aircraft Owners & Pilots Association


Mark Baker

To a pilot, an airport is pretty much always a good thing. Whether you view it as a gateway to new adventures, a safe haven when the unexpected happens, or even a second home, there's a lot to love about these open spaces in an increasingly cluttered world.

But to those who aren't pilots and may not understand general aviation's role, an airport can be something very different. They might see it as a source of noise or pollution. Or maybe they think of it as an "empty" space just begging to be developed. And that's when we have conflict.

Sometimes, bridging the gap between the pilot's perspective and the airport opponent's perspective is fairly straightforward. Noise can often be managed with friendly flying practices. An economic impact analysis can prove the value of an airport, and so on. But sometimes, the gap is too wide, and an airport becomes the center of a fierce, long-running battle. That's the case with Santa Monica Municipal Airport in Southern California.

For years, some in the city have been trying to close the airport. There have been lawsuits and attempts to strangle the airport, restrict operations, and more. It's a battle that has claimed enormous resources on both sides, and it's one AOPA has been heavily engaged in at every step along the way.

Recently, the fight over the airport has heated up again. In early July, AOPA and others, including the National Business Aviation Association, actor and pilot Harrison Ford, and other airport tenants, pilots, and businesses filed a "Part 16" complaint with the FAA.

The City of Santa Monica says it is no longer obligated to keep the airport open after next year, when it claims its federal obligations expire. But the flying community believes the airport remains under federal grant obligations through 2023.

To resolve the complaint, a senior FAA official will hear the petition and consider evidence presented by airport proponents and the city before making a finding. That decision may be appealed in federal court.

In the meantime, Santa Monica residents have filed a petition with the city to put the airport's future to the voters. The petition, which AOPA has supported, would put an initiative on the November ballot to require voter approval before the city can make airport land available for non-aviation uses or can close or partially close the airport.

Regardless of the outcome of the Part 16 complaint and the ballot initiative, you can be sure of two things. One, the battle for the future of Santa Monica will continue. And, two, AOPA will keep fighting to keep the airport –and others like it – open for many years to come.

If you're fortunate enough to fly at an airport that has the support of the community, I hope you'll do your part to keep it that way by flying friendly, building goodwill, and welcoming non-pilots to experience the good things that happen at your field. If not, consider working with your local Airport Support Network volunteer to find ways to bridge the gap before it becomes a chasm and yet another airport is endangered. ❑

www.aopa.org
800-872-2672

ADSB, Icing, Approach Plates & High-Profile Accidents

by Michael J. "Mick" Kaufman

Michael Kaufman

It seems that we have gone from the winter to summer flying season in a very short time though winter did its best to hang on much longer than usual in the Midwest. As pilots came out of winter hibernation, I became extremely busy flying and missed the deadline for my column in the last issue for which I apologize to my readers. I would like to congratulate Andy Nahas of Boscobel, Wis., Jack Young of Madison, Wis., and Peter Kendler of Lincolnshire, Ill. on obtaining their instrument ratings and Ben Fischer of Spring Grove, Ill. on the purchase and delivery of his new G36 Bonanza. I was honored to have had the opportunity to instruct and fly with these fine pilots.

As continued interest has been focusing on ADSB, I will be focusing a brief part of this column on the Garmin GPS 796 and the companion GDL 39 ADSB receiver. Even though the icing threat for most general aviation pilots is behind us for a while, I would like to touch on that subject at the request of several of our readers. A question on approach plates is another topic I would like to address and I must say that this one still requires quite a bit of research.

Whenever there is a general aviation accident involving a high-profile person, it makes national news as in the case of Richard Rockefeller. I would like to add a few comments of my own about the situation surrounding this accident.

There have been many writers making comparisons of the different ADSB devices, and I will add some of my own comments as well **(fig 1).** I had the chance to fly the Garmin GPS 796 mated to the Garmin GDL 39 and make some of my own observations.

Many have compared the GPS 796 with the iPad, and I will have to do the same. We have definitely made progress in the release of new GPS/ADSB units, and the competition is very keen. I felt the size of the Garmin 796 seemed better for the cockpit environment compared to a full size iPad that must be kept on your knee, or if mounted, covers up some important aircraft switches or indicators.

We used the Garmin 796 with the GDL 39 that has ADSB weather and traffic, but the 796 can also use XM weather. For the most part, I prefer the XM weather over ADSB weather because of its availability on the ground and more available weather products.

Fig 1 - Garmin GPS 796

The cost of the subscription needs to offset this advantage and with pilots flying fewer hours per year, this may be hard to justify.

The traffic on the Garmin package is not giving you the full traffic display because all aircraft are not yet ADSB out equipped and Garmin displays this warning. Approach plates are displayed on the 796 with a subscription, but this is quite expensive – $499.00 compared to the iPad apps costing $99. I have both Wing X Pro and Foreflight on my iPad, which allows me to test different manufacturers' interface boxes and that amounts to around $200.00 per year. The Garmin 796 does a good job at what it was designed to do and may be worth its price times 10 if your iPad should fail at the wrong time due to overheating as mine has done several times in the cockpit. The Garmin 796 GDL 39 combo has never done that, so you decide.

The legal interpretation of ***flight into icing conditions*** in aircraft not equipped for known ice has plagued many pilots flying in the winter.

What legal action might the FAA take should you get into more ice than you can handle and declare an emergency? I asked a FSDO inspector friend of mine for an interpretation of the rule, and he gave me the official answer as defined in a letter addressed to Ms. Leisha Bell, Manager of Regulatory Affairs with AOPA, from the FAA Office of Chief Council.

I would like to point out several items addressed from that letter: The first referencing the aircraft owners manual stating, "This aircraft is not approved for flight into known icing conditions." FAA regulation 14CFR 91.9 (a) references the approved aircraft flight manual as compliance with these requirements by the pilot. The letter elaborates the fact that this is known icing conditions and the pilot needs to be aware of this.

Specifically, I quote the letter as to conditions for known icing to occur: "The formation of structural ice requires two elements 1) The presence of visible moisture, and 2) An aircraft surface temperature at or below zero degrees Celsius." These are factors that I totally agree with, and "YES," you will get ice. The question is how much? You may get a few thousands of an inch in one hour's flight time in these conditions, or you may get an inch or more in a minute or less.

On May 1, 2014, I was flying with an instrument student pilot to Ohio State University Airport (KOSU) in Instrument Meteorological Conditions (IMC) at 5,000 ft. The temperature was around zero degrees Celsius, give or take a degree for the entire trip, with no noticeable ice accumulation. Around

the Peotone VOR (EON) we hit a pocket of moisture and accumulated 3/8 inch of mixed ice in about a minute. We were not in trouble, as we knew warmer temperatures were below us as METARS and pilot reports showed good VFR under us. We continued at 5,000 ft. for about 5 minutes and lost about 25 kts of airspeed due to the shape of the mixed ice. After requesting a lower altitude from ATC, we descended to 4,000 ft. and the ice melted off.

I wish I could nail down a better definition on the icing rule, but it just is not there. Before Nexrad in the cockpit, I would not fly with forecast imbedded thunderstorms because we did not know where they were. It would be nice to know where those pockets of ice were, so we could avoid them as well. Unfortunately, we do not have the technology yet. Pilot reports are still our best answer to where the ice is, and we made such a report on our encounter. Keep the ice for those cold drinks.

On a recent visit to Marshfield, Wis. on a training flight, I had the opportunity to see a flying friend from my past of about 50 years, Dan Maurer. Dan is retired and had a great flying career beginning with Midstate Airlines, and then with Northwest Airlines, recently retiring with Delta Airlines.

We always find something interesting in aviation to talk about, and Dan posed a question to me on approach plates. The question was on approach plates with the designation of Y and Z in the approach name. I proceeded to explain how the GPS Y and Z differed and Dan said, " WHOA; but, these are ILS approaches"**(fig 2 & fig 3).** I did not have an answer, so I left Dan thinking, "what are these naughty *TERPSters doing now." So the challenge begins!

Items I have been able to determine from the RNAV (GPS), Y and Z approaches do not seem to follow through to the new challenge when applied to the ILS Y and Z approaches. To begin, most of us are familiar with the circling approaches A and B and down the line. The "A" approach is the first circling approach to the airport and if a second circling approach is available, it is labeled B then C and down the line. The reverse is true for the Y and Z approaches with Z being the first approach for a specific runway and going backward through the alphabet. On the RNAV (GPS) Y and Z approaches, the waypoint string and altitudes are the same except the final Decision Altitudes (DA) or Minimum Descent Altitudes (MDA), do not seem to follow through on the ILS Y and Z approaches. A second note is that on some of the RNAV Y approaches, they do not list GPS in the title of the approach, meaning they are designed for RNAV systems, which use different criteria for determining protected airspace for the approach corridor. A third criteria applying to the RNAV Y approach is that some are labeled "SAAAR," meaning Special Aircrew & Aircraft Authorization Required. FAA AC90-101 further describes and provides information on obtaining this approval.

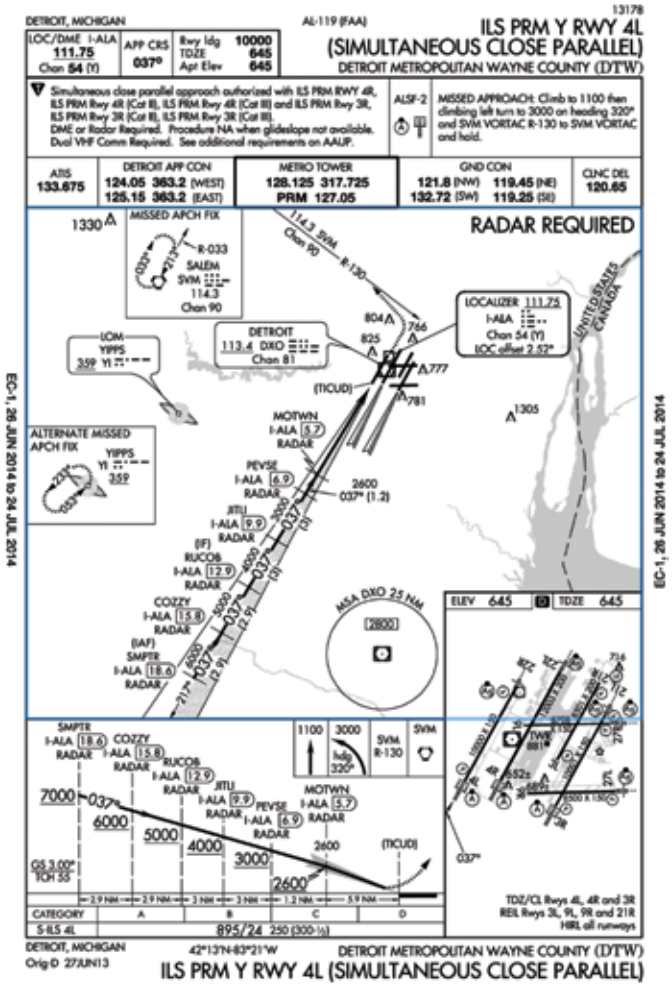


Fig 2

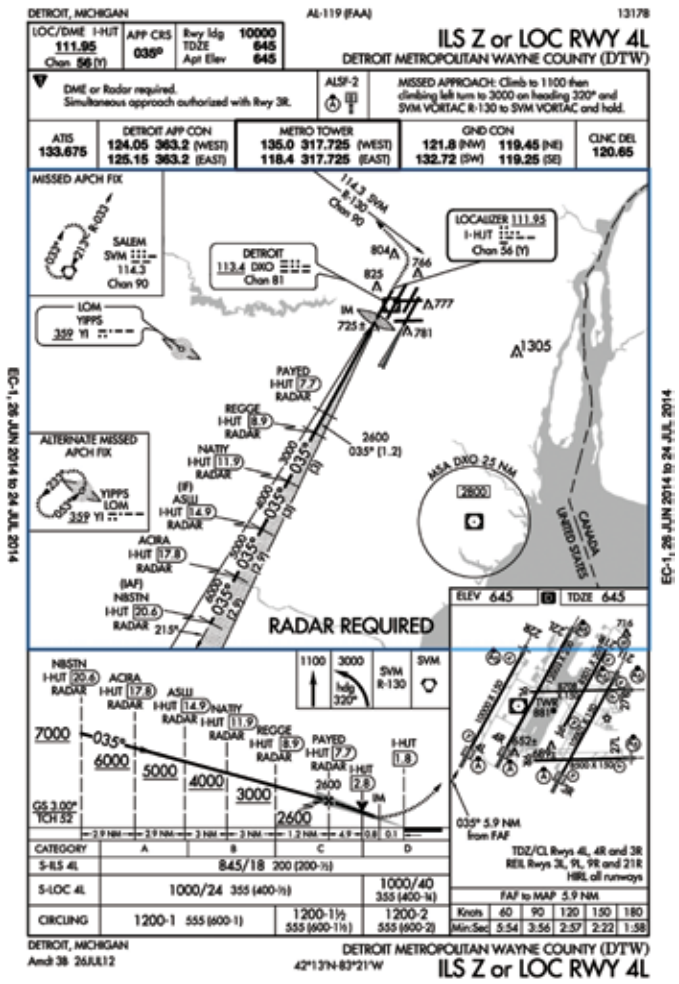


Fig 3

The *TERPSters and Dan have brought me to my knees on this one; but having a quest for knowledge, I will continue to research and investigate more on the Y & Z approaches and share it with our readers in future issues of *Midwest Flyer Magazine.*

Whenever a ***high profile person*** is involved in a general aviation accident, it becomes the attention of the news media, as did the recent tragic accident involving Richard Rockefeller. My sympathy and condolences go out to the family and friends of Richard.

By the preliminary investigation of the accident by the FAA, one item gets our attention and that is the low weather conditions surrounding the accident. The media also brings out the fact that Richard was not a low-time, inexperienced pilot.

A number of years ago, I set forth a goal to determine measurable criteria and set a minimum weather safety standard for flying in our Beechcraft training program. Some of these thoughts went into setting our standard and may or may not apply to the tragic Rockefeller accident:

1) For Bonanza and Baron aircraft, do they have single or dual control yoke, and is the pilot and instructor both current for flight into IMC?

2) Are there any known equipment problems or deficiencies?

3) Are thunderstorms forecast or imminent?

4) What is the current ceiling and visibility?

To cover these questions with a brief answer:

1) Both pilot and instructor need to be current for single control yoke for takeoff into IMC.

2) No known equipment problems.

3) Two forms of thunderstorm avoidance in the airplane (Nexrad WX, Stormscope, live airborne radar).

4) A ceiling or visibility equal to or better than the lowest published circling approach minimums for the departure airport.

None of us should attempt to be a Monday morning quarterback on the crash of Richard Rockefeller, but items mentioned above might be used as a guide to prevent another sad incident. On pilot checkrides, the examiner now has some special emphasis items from the FAA to help a pilot determine if they are safe for flight. I will cover more of my thoughts on these in the next issue of *Midwest Flyer Magazine.*

Fly safe and avoid those summertime thunderstorms!

*TERPSters "The people that design and write the Terminal Instrument Procedures (TERPS).

EDITOR'S NOTE: Michael J. "Mick" Kaufman is a Certified Instrument Flight Instructor (CFII) and the program manager of flight operations with "Bonanza/Baron Pilot Training," operating out of Lone Rock (LNR) and Eagle River (EGV), Wisconsin. Kaufman was named "FAA's Safety Team Representative of the Year for Wisconsin" in 2008. Email questions to captmick@me.com or call 817-988-0174.

❑

Not Flying Blind Anymore!

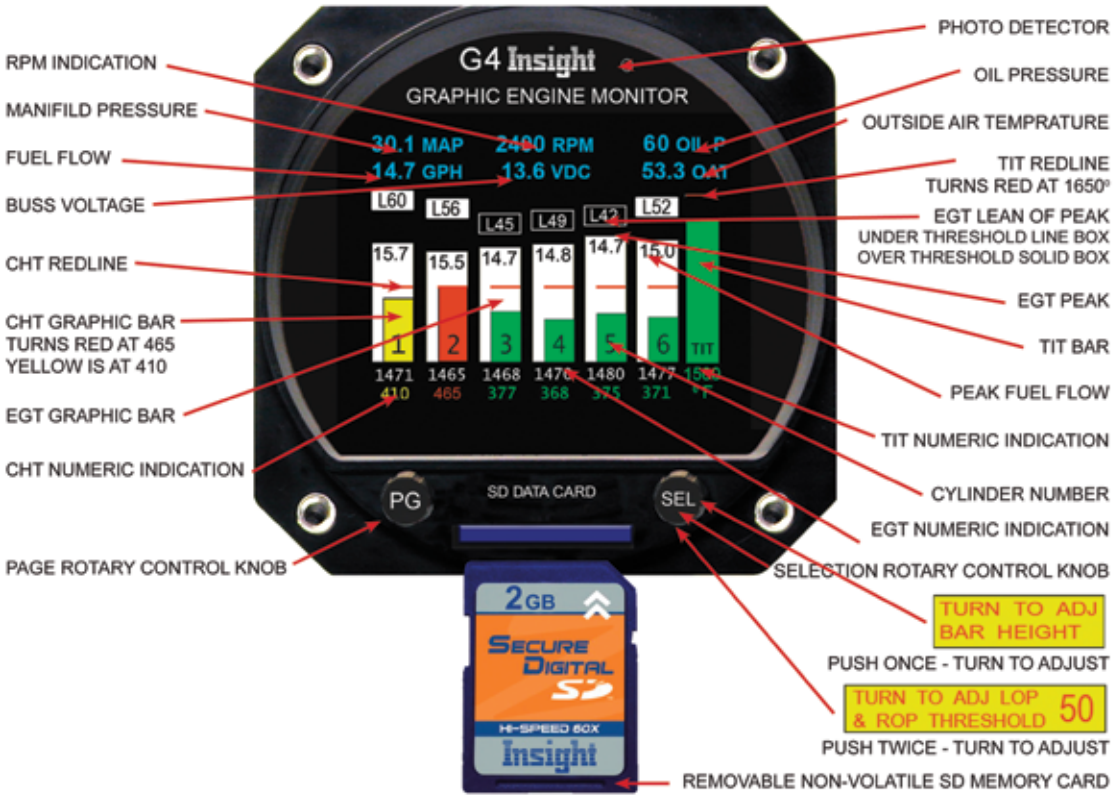
by Dave Weiman

During the summer of 1981, a radical new instrument appeared in the Bonanza's panel – a one-of-a-kind instrument. Bright orange bars of gas plasma climbed the display, constantly monitoring and instantly responding to every power stroke. The new instrument had a finger on the pulse of each cylinder, and demonstrated the ability to graphically depict the whole spectrum of powerplant operation. Never again would a simple problem like a fouled plug spoil the enjoyment of a flight, or would the mixture be leaned too much or too little, resulting in costly repairs. The world's first Graphic Engine Monitor (GEM) had been invented by **Insight Avionics** and was unveiled at the American Bonanza Society convention that same year.

It is important to position the graphic engine monitor (lower left instrument) so information can be easily viewed while flying.

Many models later, the designers at Insight Avionics continue to combine a thorough understanding of aircraft systems, technology, and the cockpit environment with computer aided design and manufacturing (CAD/CAM) and computer numerical control (CNC) machining to craft instruments that are finely tuned to the needs of pilots.

My appreciation for Insight GEMs came out of necessity. With only 1200 hours since major overhaul on the O-470 Continental engine in my 1976 Cessna 182 Skylane, I had to replace three of six cylinders, which made me concern that after 27 years of flying the plane, I might be leaning the mixture incorrectly. Like most, I was taught to lean until the engine began running rough, or I saw a decrease in RPMs, then add at least an inch or more of mixture. I also added an exhaust gas



Features of the Insight Avionics G4 Graphic Engine Monitor.
Insight Avionics Photo

temperature (EGT) gauge about 10 years ago, so I thought I had the bases covered.

I referred to my pilot's operating handbook (POH) to make sure I was maintaining the correct power settings, cowl flaps, airspeed and angle of attack on climb-out to keep the engine cool, and applied carburetor heat when needed.

I also asked the advice of maintenance professionals and got a mix of feedback.

One mechanic told me not to worry about it… *"just fly the plane,"* he said. Another mechanic told me that Continentals were notorious for going through cylinders, but had strong bottoms, so I could likely go beyond TBO, but would continue to replace cylinders – *still not a cheap option.* About then I began longing for my generally trouble-free 150 hp, four-cylinder Lycoming O-320 in a 1974 Cessna 172 Skyhawk I once owned, but everything is a tradeoff. With the 182, I have more power, more payload, greater range, and it is a more stable instrument platform, but the 172 was more economical.

Darrell Bolduc of **Bolduc Aviation** at Anoka County/ Blaine Airport in the Twin Cities, overhauled my engine more than a decade ago, and has replaced the cylinders as needed. It was Darrell who reminded me that my original cylinder head temperature (CHT) gauge only gave me the temperature of the coolest cylinder, so I did not know whether or not the other five cylinders were cool or running hot. Therefore, despite my effort to keep my engine cool, I was *flying blind* when it came to "leaning" the mixture, not knowing the temperatures of each cylinder.

To correct this, Bolduc recommended that I install a Graphic Engine Monitor (GEM) so I would know from startup to shutdown the temperature of each cylinder and could accurately adjust the mixture to keep the engine cool.

I called around and landed at **Gran-Aire, Inc.** ***(www.FlyMilwaukee.com)*** at Milwaukee Timmerman Airport (KMWC) in Milwaukee, Wisconsin. Chief aircraft technician Gary Bavuso had installed a lot of Insight Avionics engine monitors, and is convinced that they are one of the best manufacturers in business today. Insight monitors are also relatively easy to install, rarely need maintenance, and are a great value. JPI was the other option, which also receives good reviews. Based on Bavuso's experience installing Insight Avionics monitors and their lower cost, I chose the Insight **"G4."**

Additional features of the Insight G4 include a comprehensive data log/windows file stored on a removable Secure Digital (SD) card, so data recorded over time can be reviewed after engine shutdown; over-the-web software updates; Spectral Vibration Analysis; exhaust valve analysis - EGT Variation Spectrum; and an integral fuel computer with GPS fuel interface.

The G4 will operate standalone, or can interface with other data sources and report information to other instruments like multi-functional displays (MFDs) and my Garmin 430s.

Installation costs can vary depending on the amount of time it takes the technician to do the installation *(that's where experience installing a particular GEM pays off),* and the

Engine Probe Page
Insight Avionics Photo

Variation shown in Exhaust Gas Temperature (EGT).
Insight Avionics Photo

features you add, such as "fuel flow," which was one feature I definitely wanted.

The G4 has the larger 3.125-inch bezel (instrument face) size, making it easy to see. In comparison, the lesser expensive G3 has a 2.25-inch bezel, but provides the same amount of information.

Positioning the monitor in your panel is extremely important, as you will be looking at it more than you might

think. Bolduc encouraged me to position the monitor as much directly in front of the pilot-in-command for that reason.

I chose to have the monitor mounted just below the Course Deviation Indicators (CDIs) or VORs. A little lower than I wanted, but I already had a 3.125-inch hole in my instrument panel, and it was my best option. To compensate for the slightly lower position on the panel, I simply lowered my seat a tad.

Tanis Aircraft Products continues to offer independent systems and upgrade solutions that heat all the cylinder assemblies and the entire engine without interfering with engine monitor installations or operation.

If you currently have a Tanis preheat system that uses CHT wells for heating cylinders and you are installing a monitor, simply upgrade to the rocker cover/intake tube threaded element. Tanis has STCs for both four (4) and six (6)-cylinder Continental, Lycoming, and Franklin engines **(www.TanisAircraft.com).**

The G4 is a sophisticated tool for engine management. Its microprocessor performs many tasks that used to be handled by the pilot.

One of the basic functions performed by the G4 is monitoring exhaust gas temperatures (EGT) for each cylinder with one-degree resolution. What is important is the EGT of a particular cylinder in relation to its peak. But peak EGT is not a constant; it changes with atmospheric conditions, altitude, power setting and engine condition, and for this reason, absolute exhaust gas temperatures in degrees Fahrenheit are quite meaningless.

Installing the wiring to the cylinders.
Gran-Aire Photo

The real objective of ***mixture management*** is finding a mixture setting, which represents the correct position on the EGT/Fuel Flow Curve. This abstract task is easily accomplished by the G4's microprocessor, which samples EGTs for all cylinders many times a second and subjects this data to a complex mathematical analysis that can identify peak EGT. This capability allows the pilot to operate the aircraft engine at the most economical mixture settings, and at a setting that will ensure proper engine cooling.

The Graphic Engine Monitor (GEM) is ready to operate the moment electrical power is applied. Within seconds after starting the engine, the ***white*** EGT bar graph columns will begin to appear on the monitor. Each column corresponds to the EGT of a particular cylinder. The lowest EGT that can be displayed by the G4 is 800° F.

In some engines, the throttle will have to be opened to the fast idle range to get an EGT indication for all cylinders. As the cylinder heads begin to warm up, the display will indicate cylinder head temperature (CHT) for all cylinders as a smaller ***green*** bar graph column in each EGT column. A horizontal red line across each column represents the maximum allowable CHT.

The EGT and CHT bar graphs are interpreted much like a conventional mercury thermometer…the higher the bar, the higher the temperature. Since EGT is normally higher than CHT, the green bar which represents CHT is on top of the white illuminated EGT bar and stands out clearly.

Digital numbers below each bar graph column indicate the exact EGT (four-digit) and CHT (three-digit) temperature for each cylinder.

Should an EGT probe fail, the entire EGT column for that cylinder will go blank, and the numeric indication will appear as dashes, but the CHT bar will still remain green. The failure of one probe will not affect the display of any other probe.

On the probe diagnostic page, it shows the current probe resistance. If the probe has unusually high or low numbers, we know there is a problem. If the numbers are low or "closed," something may have shorted out to the ground or to another component, or a circuit has no resistance. If the numbers are high or "open," a circuit does not complete, and there may be a broken wire or terminal. All of this information is very helpful to the aircraft technician when verifying a fault.

Operationally, there are two control knobs on the G4 that operate a combination of rotary and push button

switches. The top knob in general controls screen selection, while the bottom knob controls items within the given screen. Each screen assigns its own functional needs to the controls that may change depending on context. A screen may also label the controls with guidance information like "Push To Exit."

The G4 is designed to expand and grow with the times.

Simultaneously, EGT, CHT, Turbine Inlet Temperature (TIT), Manifold Pressure (MAP), Tachometer (RPMs), Carburetor Temperature (CARB), Outside Air Temperature (OAT), Oil Pressure (OIL), Bus Voltage (VDC), Fuel Flow (GPH), fuel used, alternator temp, oil temperature, and instrument vacuum, can all be monitored.

The color-coded bar graph and digital values featured on the Insight G4 may be "primary" for EGT, CHT, and TIT. That means if your original

Engine vibration sensor.
Gran-Aire Photo

engine instruments die, the CHT, EGT and TIT features on the Insight G4 can be used to replace them, saving the aircraft owner the expense of replacing them. All other data shown in cyan at the top of the display are "supplementary."

Leaning of The Mixture

Some pilots choose to lean their mixture "lean of peak," while others like me, prefer to operate "rich of peak." Based on information I have received from Insight Avionics and a variety of other sources, this is the procedure I follow when leaning my Continental O-470 "rich of peak." *(Readers are urged to likewise consult with Insight Avionics and their engine and aircraft manufacturer, and refer to the owner's manual and DVD that come with each system.)*

I take off at full rich at full power at or near sea level. Upon reaching the desire altitude, I level off and come back to approximately 2300 RPMs and between 15 and 23 inches of manifold pressure (MAP), depending on my altitude. The Insight G4 depicts both the Tachometer (RPMs) and Manifold Pressure (MAP) digitally, so there's no guessing as to the accuracy of your settings.

I then push and hold the reset button, located on the lower right-hand side of the monitor, for 3 seconds to erase the temperature difference boxes prior to leaning, and once I reach peak Engine Gas Temperature (EGT)

displayed in a box above each cylinder column, I press the reset button again for 3 seconds before enriching the mixture. (Reverse mixture control motion to enrich the mixture to obtain the fuel flow rate or EGT drop recommended by the engine and airframe manufacturer.) The EGT drop is continuously displayed above the EGT column. You know you have reached the desired EGT drop when the temperature box turns from hollow to solid.

Temperatures depicted when leaning lean of peak are "hot," or degrees hotter than peak temperature, and the temperatures depicted when leaning rich of peak are "cool," or degrees cooler than peak temperature. Lean temperatures are depicted in "black and white," preceded by the letter "L," and rich temperatures are depicted in "cyan," preceded by the letter "R."

I operate each of my six cylinders between 100 and 125 degrees Fahrenheit rich or cool of peak, and no less than 75 degrees rich or cool of peak. Normal cylinder temperatures (CHT) for the O-470 is between 200 and 460 degrees Fahrenheit, ranging from 297 and 387 degrees on one recent flight at 5000 feet MSL, with an EGT between 1309 and 1469. The outside temperature that day was 7 degrees Fahrenheit, and I was consuming 14.7 GPH. Again, consult with your engine and aircraft manufacturer to determine the best operating range for your aircraft, and keep track of your temperature ranges.

Besides knowing your numbers, as an owner/operator (not an expert), I feel it is important to look for consistency between bar graphs and temperature readings. If one cylinder is acting differently than the other cylinders, I am going to consult with my aircraft technician immediately. Without the engine monitor, I would likely not detect a potential problem.

The G4 buss voltage attempts to display the buss voltage in green when it is normal and red when it is outside of normal. In an aircraft with a 12V electrical system, the buss voltage will be annunciated in green so long as the voltage is 12.0V to 14.9V (inclusive).

In an aircraft with a 24V electrical system, the buss voltage will be annunciated in green so long as the voltage is 24.2V to 28.7V (inclusive). Below this range, the alternator is not charging the battery, and above that, it is overcharging, and the buss voltage will be annunciated in red.

For additional information on Insight Avionics and the complete line of graphic engine monitors for single-engine and twin-engine aircraft and helicopters, go to **www.InsightAvionics.com** or call 905-871-0733 or email marketing@insightavionics.com.

ADDITIONAL REFERENCES: For installation contact Gary Bavuso, Gran-Aire, Inc: 414-461-3222, gary@flymilwaukee.com ***(www.FlyMilwaukee.com).*** For engine rebuilding and repair to factory zero-time specifications, contact Darrell Bolduc, Bolduc Aviation Specialized Services: 763-780-1185, darrell@bolducaviation.com ***(www.BolducAviation.com).*** For aircraft preheat systems, contact Doug Evink, Tanis Aircraft Products, Inc: 800-443-2136, doug@tanisaircraft.com ***(www.TanisAircraft.com).*** ❑

Flying To Work Is A Daily Pleasure For One Wisconsin Pilot

STOUGHTON, WIS. – For one southern Wisconsin businessman, he has figured out a way to combine his love of owning his own business with his love of flying small airplanes.

John Matson, 58, begins each business day by pulling his 1970 180 hp Cessna 172 Skyhawk out of its hangar at Matson Airport (2W16), located just outside of Stoughton, Wisconsin, and commuting to his manufacturing plant in Portage, Wis., 50 miles to the northwest. The flight takes him less than 30 minutes. By car with rush hour traffic around Madison, it would take him at least an hour, and would not be nearly as much fun and safe as flying.

Pete and Pearl Nelson (founders of Nelson Muffler of Stoughton) established the private/public-use airport in Stoughton in 1948. It has a 2500 X 100 ft. grass runway. Matson's parents, Tom and Jeanne Matson, purchased the farm that includes the airport in 1956. Matson lives next to the airport. He has even eliminated the commute once

he arrives in Portage, as his business is located immediately adjacent to the airport. Matson flies in, ties down his C172 mid-field, then walks one block to the front door of his manufacturing facility where the slogan "Made In America" comes alive each day!

Matson started flying in 1971. His flight instructor was Roger Amundson, who is featured elsewhere in this issue of *Midwest Flyer Magazine.*

John Matson with his S1S Pitts and Cessna 172 Skyhawk.

"Roger gave my son, Mark, a logbook for his birthday and he used it to go get his private pilot certificate," said Matson. "When I say his birthday, I mean the day he was born!"

Matson got his start in business as a salesman for Stoughton Trailers. He shared flying duties with company owner, Don Wahlin, flying customers back and forth in a pressurized 58P Baron. Matson bought Matrex Mold and Tool, Inc. with Patrick Odette in 1995, realizing his college dream of owning his own business. Matson has a degree in Finance from the University of Wisconsin-Whitewater. Odette is also a pilot, so when not talking shop, Matson and Odette are talking about flying!

On weekends and during summer evenings, Matson enjoys flying aerobatics in his S1S Pitts, an airplane he built with Doug Pfundheller, Mark Pfundheller, Ron Koscal and Keith Swalheim. Help was also provided by local builders Roger Amundson, Bill Amundson and Dick (Pete) Peterson.

EDITOR'S NOTE: Have a unique way of using your airplane for work or play, or know of a great flying destination, share it with other readers of Midwest Flyer Magazine: **info@MidwestFlyer.com.** ❑

Respected Aircraft Builder, Roger W. Amundson

Roger Amundson

STOUGHTON, WIS. – Roger W. Amundson, 96, of Stoughton, Wisconsin, may have passed away June 17, 2014, but the aircraft he built and restored over his lifetime, live on.

Amundson developed a lifelong love of aviation beginning at age 8 after seeing barnstormers over Stoughton's main street. He paid 50 cents for his first airplane ride shortly thereafter during the community's annual Norwegian celebration, Syttende Mai.

Amundson built his first aircraft, the "Puddle Jumper," for $40 while still in high school. He was too young to fly the airplane, then, so he just taxied it around town on pontoons or skis.

Amundson later constructed two award-winning aircraft – a Wittman Tailwind and a Steen Skybolt – and built and restored a number of other aircraft over the years either on his own or with friends at Matson Field.

Amundson moved to Los Angeles in 1938, where he worked for Lockheed Martin and made his first solo flight in an Army Air Corps Stearman. During World War II, he instructed glider pilots in Wickenburg, Arizona, and trained pilots at an airbase in TwentyNine Palms, California. After the war he worked as a crop duster in the south before returning to Stoughton to manage the local airport and operate "Roger's

Flying Service."

Amundson flew for the Ossit Church Furniture Company of Janesville, Wis. for 27 years, and was also a flight instructor in Stoughton.

On February 12, 1948, Amundson and a friend made headlines when they landed their airplane on a frozen Lake Michigan in downtown Chicago, backing up traffic for miles on Lakeshore Drive. The two pilots were arrested at the Museum of Science and Industry, but were released after the police could not find anything to charge them with. Amundson's charm, humor, intellect and wit, combined with the sheer fascination of flight, surely helped in getting their speedy release.

Amundson married Barbara Pfundheller in 1952, followed by, not surprisingly, a 4500-mile honeymoon flight to California and the Pacific Northwest. The couple had two sons, Bill and Jim.

Amundson is survived by his son, Bill Amundson, and daughter in-law Anita James-Amundson. He was preceded in death by his wife, Barbara; son, Jim; and sister, Virgene Bellin.

On June 21, 2014, friends and family enjoyed a celebration of life in memory of Amundson at the Matson Airport in Stoughton. ❑

Bob Taylor Celebrates His 90th Birthday, Bob Taylor Style!

Bob Taylor

BLAKESBURG, IOWA – Bob Taylor, who founded the Antique Airplane Association (AAA) in 1953, invited all to his 90th birthday party at AAA headquarters June 28, 2014 at Blakesburg, Iowa. More than 150 people, including family and friends, arrived by car and plane to help celebrate the occasion. All enjoyed his catered lunch and dinner, plus a birthday cake and cupcakes. Friends could visit with old friends and make new ones.

Taylor was at his best as he welcomed guests. He was always in demand for a word or two. All in all, it was one grand party, and in Bob Taylor style! ❑

Ulteig Names Hoskins COO

ST. PAUL, MINN. – The engineering firm Ulteig has promoted Jason Hoskins to the position of chief operating officer. Previously serving as the technical director for the substation, Hoskins now brings his 21 years of experience in engineering and consulting industries to the role, where he will be responsible for aligning the strategic direction and prioritizing company investments across the technical departments. Hoskins will continue to be based in the St. Paul office and will report to Chief Executive Officer Eric Michel.


Jason Hoskins

"I am looking forward to the opportunity this position brings to improve flexibility and responsiveness," Hoskins said. "Having a position that connects with each technical department will increase visibility to what everyone is working on and will allow us to identify what skills sets are available more easily. This will be a great benefit to our clients."

Hoskins joined Ulteig in 1999 and his previous roles include market leader, senior vice president and sector leader. He received his bachelor's degree in electrical engineering from North Dakota State University in 1993, and is a licensed engineer in Iowa, New Mexico, North Dakota, Wisconsin and Minnesota.

Ulteig was founded in 1944 by Melvin Ulteig with the vision of bringing electricity to people in the rural Midwest. Today, Ulteig is a nationally accredited company, ranked number 211 in the Top 500 Engineering Design Firms in the nation by Engineering News Record and considered among the top firms in electrical transmission and distribution services. Ulteig offers a wide variety of engineering, surveying and consulting services, including aviation and airport development. The company has offices in Bismarck, Fargo and Williston, N.D.; Detroit Lakes and St. Paul, Minn.; Sioux Falls, S.D.; Denver, Colo.; and Cedar Rapids, Iowa (www.ulteig.com). ❑

White House Nominates Hart To Head NTSB

WASHINGTON, D.C. – Christopher Hart, a member of the National Transportation Safety Board (NTSB) since 2009, has been nominated by President Obama to head the board. Hart is an active general aviation pilot who holds a commercial pilot certificate with multi-engine and instrument ratings. He will succeed Deborah Hersman, who left NTSB to head the National Safety Council.

Hart has been vice chairman of NTSB since October 2013. Prior to that, he was the deputy director for air traffic safety oversight at the FAA from 2005 to 2009 and was the assistant administrator for system safety at the FAA from 1995 to 2005. From 1994 to 1995, Hart served as deputy administrator of the National Highway Traffic Safety Administration. From 1990-93, Hart was also an NTSB board member. ❑

Wag-Aero Group Names Andreas Marketing Assistant


Amy Andreas

LYONS, WIS. – Amy Andreas of Whitewater, Wisconsin, has been named marketing assistant at the Wag-Aero Group, distributors of aircraft parts and services through their companies Leading Edge Air Foils (LEAF) and Aero Fabricators.

Andreas graduated from the University of Wisconsin-Whitewater and received Bachelor of Science Degrees in Public Relations and Advertising, and Social Work.

Andreas' grandfather, John Hub, was a pilot in World War II, and flew for American Airlines for 30 years. He owned a 1946 Luscombe.

At age 5, Andreas took her first airplane ride. Following the flight, the pilot gave her a pair of silver wings and told her, *"With wings, you can reach new heights and discover new horizons; the possibilities are endless. Believe in your ability to do what seems impossible."*

Andreas is the assistant to Wag-Aero Marketing Director, Mary Pat Henningfield. ❑

NASAO Announces Henry Ogrodzinski Scholarship


Henry Ogrodzinski

WASHINGTON, D.C. – The National Association of State Aviation Officials (NASAO) has created the "Henry M. Ogrodzinski Scholarship." The program will be run through NASAO's Center for Aviation Research and Education and will award scholarships to dependents and spouses of NASAO members who are in good standing.

In its first year, the program may award up to three $1,000 non-renewable scholarships that may be used for tuition, fees, books and/or supplies. Additional information and applications are available online at www.nasao.org.

Henry Ogrodzinski spent more than 17 years leading NASAO as its President and CEO and devoted his lifetime to the general aviation industry. He served general aviation through Delco Electronics, the Experimental Aircraft Association, the General Aviation Manufacturers Association, Gulfstream Aerospace, and the United States Air & Trade Show in Dayton, Ohio. Ogrodzinski, 65, passed away January 22, 2014 after a long battle with cancer. ❑

Ohio Man Receives EAA's Bingelis Award


Dave Ross

OSHKOSH, WIS. – (June 26, 2014) – Dave Ross of Wakeman, Ohio, is the 2014 recipient of the Experimental Aircraft Association's (EAA) "Tony Bingelis Award," for his hard work as an EAA Technical Counselor, RV builder and EAA chapter safety chairman.

Ross, a retired corporate pilot, has been an active EAA member for 39 years and a member of EAA Chapter 50 in Sandusky, Ohio. He has held numerous chapter positions, such as the chapter's safety chairman for many fly-ins and other shows, EAA Technical Counselor, and captain of a Ford Tri-Motor aircraft. He was also a member of the IAC (International Aerobatic Club) for 20 years. Apart from his various roles throughout the years, Ross is known for his workmanship as a builder of Van's aircraft kits.

At press time, Ross was scheduled to receive the award on July 31, 2014 during EAA AirVenture Oshkosh at the Homebuilders Dinner.

The award honors the late Tony Bingelis, who was noted as a homebuilding authority and EAA Sport Aviation columnist. ❑

KSU-Salina Student Receives Stimpson Scholarship

WICHITA, KAN. – For the second year in a row, the Wichita Aero Club awarded its Edward W. Stimpson scholarship to a Kansas State University -Salina student. Receiving this year's scholarship was Elias Peterson of Lindsborg, Kansas, during a ceremony following its annual Wichita Aero Club Golf Classic at Crestview Country Club, June 15, 2014. Peterson followed fellow Wildcat Bert Hutchinson of Wichita, who received the award in 2013. Peterson, who is a junior, working towards a bachelor of science degree in Professional Pilot, was presented a check in the amount of $2,000. A licensed pilot, Peterson holds an instrument rating and is working on his Commercial Pilot Certificate. He's also an Eagle Scout and former senior class president at Smoky Valley High School.

The scholarship honors the memory of Ed Stimpson, the late President of the General Aviation Manufacturers Association and ICAO Ambassador.

The check was presented by members of the Wichita Aero Club Board of Directors, including John O'Leary, vice president of engineering for Airbus Americas Engineering and Chairman of the Wichita Aero Club's Education Committee, and Patrick Tuttle, president of ADR, Inc. and WAC Chairman of the Board.

For more information on the Wichita Aero Club, the Ed Stimpson Scholarship or events, visit the WAC website at www.wichitaaeroclub.org. ❑

Illinois Names 2014 Airports, Heliport & Restaurant of The Year

Photos by Joe Samudovsky

Each year, staff from the Illinois Department of Transportation's Division of Aeronautics convenes to determine which Illinois airports should receive special recognition. Selections are primarily based on the following criteria:

• The cooperation and coordination with the Division of Aeronautics and the Federal Aviation Administration by airport management and their staff.

• The facility's safety record.

• The promotion of seminars and aviation events, and aviation in general.

• The maintenance of the facility.

The Primary Airport of the Year is General Wayne A. Downing Peoria International Airport, as an airport serving more than 10,000 passengers annually.

The airport has seen substantial growth and benefits from a new airport passenger terminal. In 2013, Peoria set a new all-time enplanement record.

Reliever Airport of the Year was Lewis University, Romeoville, Illinois.

The Lewis University Airport has grown from a single paved 3,000 ft. runway to two runways– one is 6,500 feet and the other is 5,700 feet. All of this was done without residential tax revenues. Lewis is home to one of the three largest pilot and aircraft maintenance training facilities in the state – Lewis University. Lewis University Airport is currently pursuing an air traffic control tower.

The General Aviation Airport of the Year (Category A) is Vermilion Regional Airport (Danville) for airports with 5,000 feet of runway length.

Vermilion Regional Airport has recently completed several major improvements including taxiway edge lights, a runway overlay and repairs to hangar doors.

The General Aviation Airport of the Year Award (Category B) is given to airports serving aircraft requiring 5,000 feet of runway or less. Benton Municipal Airport received this honor this year.

Benton Municipal Airport was named "General Aviation (Category A) Airport of the Year." (L/R) Steve Long, Acting Chief Engineer, IDOT Div. of Aeronautics; Jim Brown, Brown & Roberts, Inc.-Consulting Engineers; Dr. Susan Shea, Director IDOT Div. of Aeronautics; Gary Kraft, Mayor of Benton, Illinois; and Michael J. Wyant, Airport Board Chairman.

Galt Airport, Greenwood, Illinois, was named "Private/Open-To-Public Airport of the Year."

Blessing Hospital in Quincy, Ill., was named "Heliport of the Year." (L/R) Dr. Susan Shea, Director IDOT Div. of Aeronautics; Randy Faxon, EMS System Coordinator for Blessing Hospital; Linda Schumm, Bureau Chief of Aviation Safety, IDOT Div. of Aeronautics; and Dennis Jarman, Flight Safety Coordinator, IDOT Div. of Aeronautics.

Benton Municipal Airport serves the county of Franklin and the southern portion of the Rend Lake District.

Recently, as a part of the city's on-going facility upgrade, the airport opened a 10-unit T-hangar. Future plans include a new replacement administration building.

The High Flyers Grille at St. Louis Regional Airport received the "Five Prop Airport Restaurant of the Year Award." (L/R) Jay Christians, Operations Superintendent, St. Louis Regional Airport; Dr. Susan Shea, Director, Illinois Division of Aeronautics; David C. Miller, Director, St. Louis Regional Airport; and Erin Ventimiglia and Chris Hines, owners of High Flyers Grille.

The Private, Open to the Public Airport of the Year Award went to Galt Field in Greenwood.

Nicknamed the "friendliest airport around," Galt Airport (10C) is located in the middle of a cornfield, in the middle of America, and in the heart of McHenry County, Illinois. 10C, once a dairy farm, was founded in 1950 by Arthur T. Galt, Jr. and was immortalized in the 1995 novel by Lawrence Gonzales, One Zero Charlie: Adventures In Grass Roots Aviation.

Recently the airport went above and beyond in removing trees and brush issues around the facility.

The Heliport of Year Award went to Blessing Hospital in Quincy.

Continued On Page 57

Michigan House Passes Recreational-Use Bill For Private Airports... Measure Now Goes On To Senate

LANSING, MICH. – The Michigan House of Representatives has passed a bill (House Bill 5178), which if approved by the Senate, would amend the state's recreational use statute to include aviation. Such an amendment would provide liability protection for private airport owners the same as it currently does landowners for other recreational uses. The bill, which passed by a vote of 62-47 on June 3, 2014, now goes to the Michigan Senate Judiciary Committee for consideration.

Liability protection will enable private airport owners to permit others to use their airports for recreational purposes without fear of being sued in the event of an accident. For many, this will encourage more private airport owners to begin having their airports identifed on navigational charts, and will increase the utilization of private airports in more communities throughout the state.

"Working with great groups like the Michigan Private Airstrip Owners Association and the Recreational Aviation Foundation has given the bill the extra push needed to get it passed this session," said AOPA Great Lakes Regional Manager Bryan Budds. "We look forward to passage of the bill when the legislature reconvenes later this year." (AOPA). ❑

Aviation Groups Applaud Second Pilot's Bill of Rights

WASHINGTON, D.C. – Aviation groups are applauding U.S. Sen. James Inhofe (R-OK) for introducing the "Pilot's Bill of Rights 2," which would further protect and promote general aviation activities in the U.S. Sen. Inhofe, a longtime aviator and EAA member, unveiled draft legislation June 30, 2014 to build on the foundation established in 2012 when his initial "Pilot's Bill of Rights" was signed into law. The new proposal would specifically address such issues as pilot medical certification reform, unannounced searches of private aircraft by federal authorities, simplified processes for certifying and installing safety-enhancing equipment on general aviation aircraft, and numerous protections and due process improvements for pilots, aircraft owners and other FAA certificate holders who find themselves subject to an FAA enforcement action. Sen. Inhofe is releasing his draft bill for review and comment by the aviation community prior to introducing a final bill after the summer recess.

"The Pilot's Bill of Rights 2" will continue and expand on the improvements that were accomplished just two years ago with the original Pilot's Bill of Rights.

EAA was among leading GA organizations that helped Sen. Inhofe and his staff identify key issues to be addressed in the new bill, and refine legal language and interpretations in the legislation.

At press time, Sen. Inhofe was scheduled to host an update briefing on the proposed legislation during EAA AirVenture Oshkosh 2014. ❑

All 50 States Now Officially Recognize Importance of Aviation

The Alliance Across America is reporting that all 50 states have joined in to recognized the importance of general aviation. In all states except Montana, which issued a letter, recognition has been in the form of a statewide proclamation issued through either the Governor's office or the State Legislature. In June 2014, there have been an unprecedented nine proclamations, including Colorado, Delaware, Idaho, Illinois, Indiana, Nevada, South Dakota, Washington and Wyoming. Just five years ago, few states had issued any proclamations, and now, many states have begun issuing proclamations on an annual basis.

The Alliance is now working with many local counties and cities to pass proclamations at the local and city level. Examples of some of these recent proclamations include Branson, Missouri and Fargo, North Dakota.

Membership in the Alliance for Aviation Across America is as low as $25 or $100 per year. Mail check or money order to: Alliance for Aviation Across America, 1025 Connecticut Avenue, NW Suite 1000, Washington, DC 20036 (www.aviationacrossamerica.com). ❑

First Production HondaJet Takes To The Skies

GREENSBORO, N.C. – Honda Aircraft Company announced June 27, 2014, that the first production HondaJet achieved its initial flight, marking another milestone toward aircraft certification and entry into service in 2015. The event took place at the company's world headquarters in Greensboro, North Carolina.

"With this first flight, the HondaJet program has entered the next exciting phase as we prepare for delivery," said Honda Aircraft Company President and CEO Michimasa Fujino. "Today's celebration is the culmination of extensive engineering and production efforts, and this is an important achievement in bringing the world's most advanced light jet to market."

The first production aircraft lifted off from the Piedmont Triad International Airport (KGSO) at 10:18 a.m. Eastern Daylight Time. During the 84-minute flight, the aircraft climbed to 15,500 feet and reached a top speed of 348 kts True Airspeed (KTAS). Following a smooth landing, the aircraft and its crew were greeted by more than 1,000 Honda Aircraft team members to commemorate the milestone.

The aircraft was flown by test pilot Warren Gould, pilot-in-command. The crew completed several checks during the flight including low and high-speed handling characteristics, avionics and system functionality including landing gear, flaps and speed brake operations.

This aircraft is finished in the new signature HondaJet paint scheme in a deep green pearl with a gold stripe. The HondaJet flies at a maximum cruise speed of 420 kts (483 mph) and has a maximum altitude of 43,000 feet. The aircraft seats up to five passengers in a standard configuration and can travel at an NBAA IFR range of 1,180 nautical miles (1,357 statute miles).

For more information on the world's most advanced light jet, visit **www.HondaJet.com.** ❑

SubSonex JSX-2 Personal Jet Makes First Flight

OSHKOSH, WIS. – The Sonex Aircraft SubSonex Personal Jet model JSX-2 achieved its first flight on July 10, 2014, completing a very successful series of initial flight tests through the remainder of the week.

Test pilot, Bob Carlton, said "I added at bit of power and she quickly goes through 200. The feeling is glass-smooth." Carlton further accelerated to max continuous power to measure cruise speeds at 3,000 feet. ❑

First New Mooney Prepares For Takeoff

KERRVILLE, TEXAS – At press time, Mooney International Corporation was preparing to announce the winning bid for Mooney Acclaim N242MR at EAA AirVenture Oshkosh 2014, July 28 – Aug. 3, 2014. The first new Mooney airplane produced in five years is nearing completion and open for the highest bidder during the "First To Fly Mooney History Museum Auction." Proceeds from the sale of the aircraft will be used to create the museum in Kerrville, Texas. The winning bidder will receive a free trip to Oshkosh, at which time the aircraft will be delivered.

Mooney has manufactured more than 11,000 aircraft worldwide, and has overcome considerable adversity in recent years (www.mooney.com). ❑

Cross Country Voyage Retraces Flight Made 48 Years Ago

In 1966, as teenagers, Rinker Buck and his brother, Kern, made a journey from the East Coast to the West Coast in a 1949 Piper PA-11. Rinker later wrote a fascinating memoir detailing this trip titled, *Flight of Passage.*

Fast-forward 48 years: the same Cub now owned and fully restored by Chris Nesin again traveled across the United States, retracing the flight. The trip began from Sentimental Journey in Lock Haven, Pa. at the beloved annual gathering of Cub enthusiasts on June 22, 2014, and concluded June 30 in Riverside, Calif. This time the trip was flown by Nesin and his wife, April.

The Nesins enjoyed the flight, making many stops along the way, including a number in the Midwest. The projected flight path included stops in Columbus, Dayton, and Harrison, Ohio; Vevay, Hanover, and Tell City, Indiana; Metropolis, Illinois; and Sikeston and Hayti, Missouri. To retrace their journey, go to www.flightofpassage.com.

The Nesins' journey also helped raise awareness for the Austin Hatcher Foundation for Pediatric Cancer, working to restore the spirit of children and families dealing with the effects of pediatric cancer (www.hatcherfoundation.org).

To support the efforts of pediatric cancer awareness and research, contact Dana Osmanski at 608-235-9696 or email danaosmanski@gmail.com. ❑

Wisconsin To California Via The Grand Canyon

by Woody Minar

It was on our flight home from Sun 'n Fun in his Cirrus SR22 when Paul Durand said he was flying to Anaheim, Calif. in a week for business and asked if I wanted to get some mountain flying experience and fly over the Grand Canyon. It took no convincing. Paul did all the flight planning because he had made the trip once before. What neither of us had done was fly over the Grand Canyon, so Paul ordered the Grand Canyon corridor chart.

We met at 7:00 am on April 21, and as he packed our gear and my golf clubs, I talked to Minneapolis Approach control to see if we could get a quick climb clearance to 8,000 MSL to minimize the icing potential that we learned from Flight Service's briefing and PIREPs. Even though he has a TKS, we didn't want to press our luck. We were wheels up at 7:28 am – Paul flew and I worked the radios. We got our clearance and were expedited to 8,000. Due to some turbulence and light rime icing, we requested and got 10,000, which put us in the morning sun.

Cruising with the autopilot on, it was time to define the details of our routes through the Grand Canyon corridors and enjoy the flatland views through Iowa and Nebraska on our way to Liberal, Kansas (KLBL). About an hour out of Liberal, the alternator light started to blink intermittently. Something wasn't right and inflight troubleshooting wasn't resolving the problem. I advised ATC we had an alternator failure. What I didn't tell them was that this was my 14th!

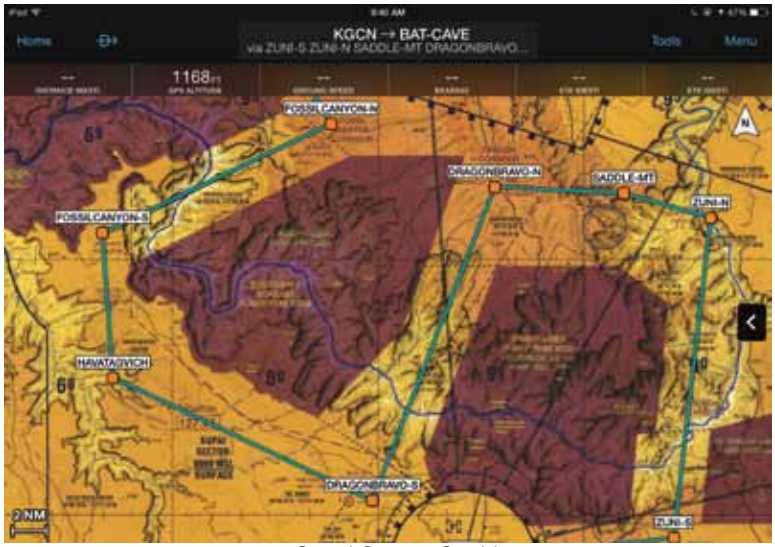
We shed as much electrical load as we could. Paul exchanged texts and calls with Jim Barker, lead mechanic and owner of Aviation Vibes in Cumberland, Wisconsin, and Kevin Fenske, his Cirrus Center Service rep at Wisconsin Aviation, Inc. in Watertown, Wis. It was comforting knowing that Paul was using as many resources as he could to resolve the problem in the air. We found out after we landed that Barker was in France conducting Cirrus training. Now, that's service and technology!

We decided to divert to a Class D airport with the thought that they would have a larger maintenance facility and an alternator. Garden City, Kan. was along our route and 49 miles short of Liberal. As luck would have it some broken clouds came in quickly so we got vectors for an ILS. We were fortunate to spot a huge hole in the clouds, cancelled IFR, and landed VFR.

The maintenance folks at Garden City were extremely helpful. After an hour of phone calls, they found an alternator in Liberal. Go figure! We departed VFR and 20 minutes later when we got to Liberal, Paul said, "I have no flaps and no trim" and the multi-functional and primary functional displays were blinking. We thought about the ILS we almost had to do.

(L/R) Woody Minar & Paul Durand

Three hours later, the alternator was replaced and we were on our way to Grand Canyon Airport (KGCN). At an elevation of 6,609 feet, the density altitude and mixture settings are much different than we flatlanders are used to experiencing. Was the mixture too lean or too rich? After



Grand Canyon Corridors


The breadth of the Grand Canyon.

refueling and programming the corridor coordinates in the 430 and iPads, we departed.

Seeing the Grand Canyon's depth, breadth, and colors from the air as the sun was setting was awesome and beholding.

Flying the corridors at the specified corridor altitudes was easier than imagined; two pilots allowed us to navigate easier and sightsee more. Because it was now late in the day, we departed the Grand Canyon towards Anaheim (John Wayne Airport - KSNA). ATC kept us busy with numerous reroutes. Once they asked us to fly to a particular VOR, fly outbound on a Victor Airway, and intercept another Victor Airway. We couldn't figure out how to do that to save our lives as the two airways seemed to parallel each other. We asked two controllers for clarification and we even offered an alternative airway to no avail. Finally, with prodding, the second controller sent us to a fix. That was easy, but the next controller cancelled all this stuff and gave us vectors to another airway.

We made it over the mountains at night. We commented that if we didn't have ATC and the terrain clearance altitude, one could easily slam into terra firma. We also noted that if we had that alternator failure at this time in our trip, we would have declared an emergency. We soon started our descent into Anaheim with more ATC reroutes.

What a beautiful sight coming into the southern California basin with the city lights glimmering. We checked in: "SoCal Approach, Cirrus 224BB, 11,000."

ATC: "Cirrus 224BB, SoCal Approach. How's it going?" That made our long day better.

Even though we had visual contact, Anaheim had a small overcast layer over the field making it IFR, so with numerous vectoring, ATC lined us up for an ILS. When cleared for the approach, we repeated back "…maintain 2,500…" and SoCal Approach said, "Whoa! Where'd that come from? Maintain 3,000..." PILOTS: "Sorry, long day." ATC: "Know what you mean." Friendly folks!

For two days, Paul conducted his business and I played golf and visited Disneyland. After getting a long departure clearance that took about 10 minutes to decipher and program, we were on our way home. Once again, we received numerous reroutes. As we got closer to a jumping off fix, we cancelled IFR and used VFR Flight Following to tour the remaining portion of the Grand Canyon that we had missed on the way out.

The trip was fantastic from the standpoint of being a General Aviation pilot and being able to see these sites, experience mountain flying, and share the passion with another pilot. Paul said he's flying to the East Coast in August to get training on flying the busy New York corridors. When he asked me to come along, I asked "Can I bring my clubs?"

EDITOR'S NOTE: Woody Minar is a DPE, Master CFI, CFII, MEI, and CFIG at the Osceola, Wisconsin airport (KOEO). He is also a Great Lakes Region CFI of the Year and FAASTeam Representative of the Year. ❑

Wisconsin Dells – A Hallmark Vacation Destination

Devil's Lake State Park, Wisconsin

Destinations

by Dave Weiman

Wisconsin Dells, located in south central Wisconsin, is heralded as a top tourist destination in the country. Businesses line main street with water parks, amusement rides, boat tours, hotels, and restaurants, but it is the area's tranquil spots of natural beauty that attracts our family to the Dells.

Fly to the Baraboo-Wisconsin Dells Airport (KDLL), located between Baraboo and Wisconsin Dells, then rent a car from either AVIS (608-242-0429), or Hertz (608-316-8979).

Wollersheim Winery, Prairie du Sac, Wisconsin

Kayaking the Upper Dells of the Wisconsin River.

Once you have a car, if you turn right onto U.S. Highway 12 when you leave the airport and head northwest, you will get to the Wisconsin Dells. Turn left and head southeast on Highway 12, you can first visit Circus World Museum in Baraboo, and Wollersheim Winery across from Prairie du Sac on the east side of the Wisconsin River before visiting the Dells.

Hungarian nobleman Agoston Haraszthy selected this site for vineyards in the 1840s, because it reminded him of his homeland. Robert and Joann Wollersheim purchased the property in 1972, and their oldest daughter, Julie, and her husband, Philippe Coquard of France, now own and operate it. In addition to producing quality wine, they now produce brandy.

Following your visit to Wollersheim Winery, cross the Wisconsin River and visit downtown Prairie du Sac and Sauk City on the west side, and watch American Eagles soar by the dam in search of fish. The river is a major nesting area, and Eagles can be seen there year-round.

Heading north to Wisconsin Dells on either U.S. Highway 12 or State Road 78 is Devil's Lake State Park, where you can rent canoes and kayaks, camp out, swim or hike the trails for some of Wisconsin's most magnificent views from 500-foot quartzite bluffs overlooking Devil's Lake. The park is open year-round with an intriguing natural history along the 1,000-mile Ice Age National Scenic Trail.

All of these natural attractions are in contrast to the carnival atmosphere of downtown Wisconsin Dells. The signage of all of the establishments try to lure tourists, but once you arrive at an attraction, such as the scenic Dells Boats Tours, where you can enjoy a casual sunset dinner cruise and breathtaking scenery, or the famous Original Wisconsin Ducks Tours onboard World War II amphibious vehicles, your eyes are focused on natural rock formations with spectacular colors.

A big attraction at the Dells has always been the "Tommy Bartlett Show," tagged the greatest show on H2O. The show is celebrating more than 60 years of some of the best water skiing exhibitions in the world!

I had the opportunity to have dinner with Tommy about 25 years ago at an aviation conference in Milwaukee. Tommy was a fellow pilot and aircraft owner, and had many tales to tell, including being on the road with Lucille Ball back in the 1940s.

His successor, Tom Diehl, I feel is the hardest working operator in the Dells, and supervises every aspect of the show, from the parking lot and admissions, to the waterfront.

If magic is to your liking, go see the Rick Wilcox Magic Theater, a show that combines magic with comedy and original fast-paced illusion.

Water is everywhere at and around the Dells, with water parks galore, and opportunities to canoe and kayak beautiful waterways. Peggy and I kayaked at Mirror Lake State Park – 2,200 acres reflecting a wooded shoreline with sandstone cliffs up to 50 feet high, a swimming beach, and wetlands that are home to a variety of wildlife.

The Tommy Bartlett Show, Wisconsin Dells, Wis.

You can rent watercraft and experience on your own the Upper Dells of the Wisconsin River with its sandstone cliffs, amazing rock formations, ledges, side canyons and all the natural beauty this area is known for.

The Chula Vista Resort and Waterpark, where we stayed, features 26 waterslides over 1.5 miles long, the country's fastest indoor water coaster, 30-foot drops, reverses and switchbacks, curves, loops and dips – all delivering guests with cool, refreshing pools (www.ChulaVistaResort.com). I can also highly recommend the restaurants at Chula Vista Resort, such as Kaminski's Chop House for fine dining.

Another great indoor water attraction is the Wilderness Wave Pool at Wilderness Hotel & Golf Resort. Before indoor water parks came to be, Wisconsin Dells would shutdown for the winter, but no more. The resorts are open year-round. Huge outdoor water parks continue to do well seasonally, and can handle thousands of visitors without long lines.

For additional information, visit www.WisDells.com, www.WisconsinDells.com, or www.TravelWisconsin.com.

The Baraboo-Wisconsin Dells Airport (KDLL), located between Baraboo and Wisconsin Dells, has two runways, 01/19, 5,010 X 75 feet asphalt, and 14/32, 2746 X 100 feet grass, and your choice of Mogas, 100LL or Jet A.

Instrument approaches include LOC/DME, RNAV, and VOR-A. Dane County Regional Airport (KMSN) is located 30 nm to the southeast, and features an ILS, car rental, aircraft maintenance and avionics (Wisconsin Aviation, Inc.), and an airport restaurant (Pat O'Malley's Jet Room).

For additional information on the Baraboo-Wisconsin Dells Airport, contact Baraboo Dells Flight Center at 608-356-2270, or refer to the airport website at www.BarabooDellsAirport.com.

Both the Kalahari and Wilderness Resorts offer free shuttle service from the airport, as does the Ho-Chunk Casino, which is located immediately adjacent to the airport, but for convenience and accessibility to all sites, we recommend renting a car. ❑

Aeronautics Report

Wisconsin Bureau of Aeronautics
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www.dot.wisconsin.gov

Airport Operations & Land Use Seminar

by Hal Davis
WisDOT Bureau of Aeronautics


Hal Davis

Each fall, the Wisconsin Bureau of Aeronautics holds a two-day Airport Operations & Land Use Seminar for the people responsible for managing our state's airports. This seminar provides airport managers with the information and tools they need to take on the day's challenges.

Back by popular demand, the 2014 seminar will focus several sessions on "Airport Management 101." Topics will include airport funding, leasing, pavement maintenance, snow removal, tree clearing and more. Whether you are new to airport management or a seasoned veteran, these sessions will be packed with useful information and best practices for all to benefit from.

We will also welcome presenters from the Federal Aviation Administration, U.S. Department of Agriculture – Wildlife Services, Airport Cooperative Research Program, Experimental Aircraft Association, and Aircraft Owners and Pilots Association. There's no better platform for interacting with FAA officials, BOA staff, airport consultants, and other airport managers all in one place.

We invite all airport managers, airport owners, airport committee members, city administrators, and anyone else who has a hand in managing an airport to attend.

The 2014 Airport Operations & Land Use Seminar will take place Wednesday, September 24 and Thursday, September 25, 2014 at the Holiday Inn and Convention Center in Stevens Point, Wis. For more information about the seminar or to register, visit www.dot.wisconsin.gov/news/events/air/operations-seminar.htm.

For any questions regarding the seminar, contact me at (608) 267-2142 or email howard.davis@dot.wi.gov.

Hope to see you there! ❑

Flight Instructor Refresher Course (FIRC)

The next WisDOT FIRC is scheduled for November 1-2, 2014 at the EAA AirVenture Museum in Oshkosh, Wisconsin. The course will be updated with new topics in addition to the core topics that include Ethics and Professionalism, How To Give An Effective Flight Review, Pilot Deviations: Their Causes, How To Teach Effectively, and Creating A Culture of Safety.

The course is open to Certified Flight Instructors whose certificates expire in November and December 2014, or January and February of 2015. Other pilots can audit the course at a reduced fee and receive a certificate of completion.

Speakers at the FIRC will include several Designated Pilot Examiners (DPEs) who always provide an insightful perspective on flight training.

For more information, visit the WisDOT web site at: http://www.dot.wisconsin.gov/news/events/air/firc.htm ❑

Meet Ryan Donnelly...
Airport Development Engineer, WisDOT Bureau of Aeronautics


Ryan Donnelly

MADISON, WIS. – Ryan Donnelly joined the Wisconsin Department of Transportation's Bureau of Aeronautics in April 2014. As an airport development engineer, Ryan is responsible for managing projects at 11 airports around Wisconsin – the largest being Central Wisconsin Airport in Mosinee. His duties include helping the airports develop a realistic and achievable capital improvement plan; contracting with consultants for planning, design and construction engineering services; conducting plan reviews; and working as a liaison between local sponsors and state and federal agencies.

Ryan earned a Bachelor's of Civil Engineering degree in 2013 from the University of Minnesota – Twin Cities, with an emphasis in transportation engineering. After working on the highway side of DOT as a student engineer in training, and for a brief stint as a full-time employee, he made his way over to the Bureau of Aeronautics.

Ryan is an Engineer in Training, working toward his Professional Engineer title. He is originally from Milwaukee, Wisconsin, and enjoys playing soccer, golfing and watching the Brewers/Packers. He hopes to have his pilot's certificate in 2015. ❑

Wisconsin Aeronautical Chart Published

The 2014-2015 edition of the Wisconsin Aeronautical Chart is now available. The chart, published biannually, alternating with the Wisconsin Airport Directory, is available at your local FBO or pilot supply shop. Single copies of the WAC scale chart can be requested by calling the Wisconsin Bureau of Aeronautics at (608) 266-3351. Requests for multiple copies should be placed with WisDOT Document Sales at (608) 246-3265.

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WATA Difference

WISCONSIN AVIATION TRADES ASSOCIATION

Wisconsin Aviation Trades Association Elects New Board/Officers

WAUSAU-ROTHSCHILD, WIS. – The Wisconsin Aviation Trades Association (WATA) held its annual meeting during the Wisconsin Aviation Conference, May 7, 2014, at which time the membership elected its board and officers.

Elected to the board are David Mann of Racine Commercial Airport, Racine, Wis.; Jeff Baum of Wisconsin Aviation, Inc., Madison, Juneau and Watertown, Wis.; Richard Morey of Morey Airplane Company, Middleton, Wis.; Peter Laper of Oldenburg Group, Milwaukee, Wis.; and Bruce Botterman of NewView Technologies, Oshkosh, Wis. Mann was reelected president, Morey was elected vice president, Laper was reelected treasurer, and Botterman was reelected secretary.

During the meeting, the new board welcomed Russell A. Klingaman of the law firm of Hinshaw & Culbertson LLP in Milwaukee, Wisconsin to the organization. Klingaman is a pilot and aircraft owner, and contributing editor to *Midwest Flyer Magazine.*

Russell A. Klingaman

In the June/July 2014 issue of *Midwest Flyer Magazine*, Klingaman editorialized on the importance of Wisconsin needing an "aircraft lien recording law," and spoke on the subject during the Wisconsin Aviation Conference.

"As an aircraft owner and operator, and as an attorney familiar with aviation law, I have identified a problem associated with buying and selling aircraft in Wisconsin – the inability to register some Wisconsin aircraft liens with the FAA Aircraft Registry," stated Klingaman in the article. The article discusses why the Wisconsin lien laws should be revised to allow for aircraft mechanic's liens to be recorded as part of the FAA Aircraft Registry, and how important having clear title is for all aircraft transactions (http://www.midwestflyer.com/?p=7572). ❑

How The FAA Deals With Pilots Who Consume Alcohol, & Why Owning A Breathalyzer Might Be A Good Idea

by Russell A. Klingaman


Russell Klingaman

In my legal career, I have been asked to help several pilots who have had their flying privileges put in jeopardy due to the consumption of alcohol. Usually, these cases involve circumstances unrelated to any flying activities. This article discusses the FAA approach to the consumption of alcohol by pilots.

In the United States, beverages containing alcohol are widely advertised, inexpensive, and readily available. They are often sold at liquor stores, gas stations, grocery stores, and similar retail establishments. Drinking alcohol is widely accepted in the U.S. Beverages containing alcohol are frequently served at meals, social gatherings, sporting events, and celebrations. In fact, many adolescents perceive drinking alcohol – and getting drunk – as a right of passage into adulthood.

Millions of people in this country – including many pilots – consume alcohol-containing beverages on a regular basis without jeopardizing their health, careers, friendships, or family relationships. On the other hand, there are millions of other people who use alcohol in ways, which are detrimental to their own health and/or the health of other people. Some people in this second group may be pilots.

FAA Alcohol-Related Regulations

The Federal Aviation Administration (FAA) has enacted several rules governing the use of alcohol by pilots including:

1. FAR 61.15(e) – 60-day rule to report all Driving Under the Influence (DUI) actions to the FAA;
2. FAR 61.15(d) – FAA enforcement action against all certificates for two DUIs in three years;
3. FAR 91.17 – the 8-hour bottle-to throttle and 0.04% BAC rules; and
4. FAR Part 67 – the medical disqualifying conditions in the medical application, which contain many alcoholic-related parts.

Every pilot who drinks any alcohol should be aware of how his/her particular Blood Alcohol Content (BAC) and central nervous system is affected by alcohol. Of course, a pilot who drinks alcohol should not fly an airplane with any alcohol in his/her body. Some pilots may not realize how drinking alcoholic beverages – even occasionally, but never before flying – may be putting their flying privileges in serious jeopardy.

How Our Society Deals With Alcohol Is Changing

Given some relatively recent events, the need for pilots to be aware of the effects of alcohol on their BAC and their central nervous system is more important than ever.

First, the National Transportation Safety Board (NTSB) released a report in 2013 recommending that each state in the country change the BAC limit for a DUI from .08 to .05. If such laws are enacted, many more people will be arrested for DUI violations, and some of these people will be pilots.

Second, the American Psychiatric Association (APA) released the latest version of its Diagnostic and Statistical Manual of Mental Disorders (DSM-5) in 2013. (The new publication is labeled "DSM-5," because it is the fifth version of APA's diagnostic manual.) DSM-5 contains major changes to the medical profession's approach to alcohol-related health issues.

Third, the "Pilots Bill of Rights," enacted in 2012, includes a section dealing with potential changes to the medical certificate application and process. Although the new law does not specifically mention alcohol, pilots should monitor this aspect of the legislation to see if new alcohol-related rules are forthcoming.

Given the ongoing and changing focus on alcohol and its use in our society by NTSB, APA, the FAA, and local law enforcement agencies, it is very important for every pilot who drinks any alcohol to know as much as possible about the "legal limits" and his/her "personal limits." The best

way to gain this knowledge is by owning and using a device, which accurately measures your BAC on an individual and immediate basis – a ***"Breathalyzer."***

The Medical Certificate

Medically, there are three ways for the FAA to keep a pilot who drinks alcohol from flying. First, the FAA has the authority to deny or defer a pilot's application for a medical certificate. Second, the FAA has the authority to suspend or revoke an existing medical certificate. Third, the Federal Aviation Regulations (FARs) require all pilots holding valid medical certificates to stop flying immediately if they have a disqualifying condition.

An Aviation Medical Examiner (AME) is authorized to issue a medical certificate immediately upon completion of the examination if he/she concludes that the pilot meets the FAA's medical standards. If the AME determines that the pilot does not meet the standards, the AME can deny certification. In addition, an AME may defer issuing the certificate and forward the application to the FAA's Aeromedical Certification Division. If the application is deferred, FAA personnel in Oklahoma City will decide if the pilot meets the medical standards.

Even if the AME issues a medical certificate immediately after examining a pilot, the FAA retains the right to deny the application and reverse the AME's decision within 60 days of the issuance of the medical certificate. If a medical certificate is more than 60 days old, and the FAA decides that the pilot is medically disqualified, then the FAA can take steps to either suspend or revoke the medical certificate. Moreover, don't forget that pilots with disqualifying conditions must automatically stop flying. According to 14 C.F.R. § 61.53(1), no person is allowed to act as a flight crewmember if he/she, "knows or has reason to know of any medical condition that would make the person unable to meet the requirements for the medical certificate necessary for the pilot operation. . . ." In other words, a pilot who meets the criteria for alcohol abuse or dependence may: (1) have his/her medical application denied/deferred, (2) have his/her medical application revoked, or (3) stop flying as required by 61.53.

The FAA definition of alcohol abuse as a disqualifying medical condition is significantly different from the medical criteria used by doctors who deal professionally with persons who appear to have substance abuse problems. As a result, a pilot may not qualify for a medical certificate due to alleged alcohol abuse, under circumstances where a doctor specializing in mental health and substance abuse would not diagnose an alcohol abuse condition.

The FAA Definition of Alcohol Abuse

The FAA considers a history of either "substance abuse" or "substance dependence" as disqualifying medical conditions. In other words, it may be deemed illegal for a pilot to fly if he/she knows or has reason to know that he/she engaged in misuse of alcohol – even if he/she is currently holding an otherwise valid medical certificate. Item 18 of the medical application begins with the question: "Have you ever in your life been diagnosed with, had, or do you presently have any of the following. . . ?" For each subpart, the airman must answer "yes" or "no" by checking the appropriate box.

Subpart 18(o) requires each applicant to report any "alcohol abuse" to the FAA. In other words, pilots who have ever engaged in "alcohol abuse" are supposed to answer "yes" on the medical application, even if they have not been diagnosed with an alcohol abuse disorder by a medical professional. ("Have you ever in your life . . . had, or do you presently have . . . alcohol dependence or abuse. . . .") (Remember, any false or incorrect answers to a question on any FAA form may be grounds for disqualification, and even criminal prosecution.)

What is alcohol abuse?

How does a pilot determine whether he/she should answer "yes" or "no" to subpart 18(o) of the medical application?

What will happen to a pilot who answers "yes" to subpart 18(o)?

What will happen to a pilot who answers 18(o) "no," and the FAA decides that the pilot should have said "yes"?

The answers to these questions are found in Parts 61 and 67 of the FARs.

According to 14 C.F.R. § 67.107(b), "substance abuse" is defined as the use of a substance (including alcohol) within the preceding two years in a situation in which that use was physically hazardous, if there has been ***at any other time*** an instance of the use of a substance also in a situation in which that use was physically hazardous.

Arguably, performing any physical activity after consuming a small amount of alcohol could be considered hazardous, and therefore, alcohol abuse. This might even include swimming, riding a bicycle, or using a lawn mower after drinking a beer. Also, any minor injury suffered after drinking some alcohol (even a slip and fall accident) could be considered evidence of "substance abuse." According to the FAA, such conduct could end a flying career.

When Is Alcohol Consumption Hazardous?

It should be recognized that the FAA definition of alcohol abuse does not include intoxication or any other measure of impairment. This begs the question: Is the phrase "physically hazardous" limited to intoxication, or does it include lower levels of impairment? In other words, would the FAA agree that all physical activities at BAC levels below intoxication are not "physically hazardous? " Even low levels of alcohol in the body impair human health and performance. The ingestion of alcohol has an effect on virtually every system in the human body, but the most obvious is the impairment of the central

nervous system (CNS).

Alcohol is considered a CNS depressant. Once ingested, alcohol is absorbed into the blood quickly, passing directly through the walls of the stomach and the small intestine. Once in the bloodstream, the alcohol is carried quickly to the brain.

Everyone knows that consuming too much alcohol causes intoxication. However, it is difficult to know how much alcohol is "too much" because alcohol affects people in different ways based on a wide range of variables.

Generally, a beverage with approximately one-half ounce of pure alcohol (a 12 oz. beer, a 5 oz. glass of wine, or a shot of 80 proof distilled liquor) will raise the BAC by approximately 0.02% to 0.03%. However, the individual effects of consuming alcohol are influenced by many significant variables such as age, body weight, gender, rate of consumption, total consumption, prior food intake, fatigue, stress, interaction with other drugs or medicines, etc. Alcohol is metabolized in our bodies at a fairly constant rate. If a person drinks faster than the alcohol is metabolized, the alcohol accumulates in the body, resulting in increased levels of alcohol in the blood.

Below is a table describing the signs and symptoms of alcohol at various BAC levels:

Percent BAC	Signs and Symptoms
.02	Sense of warmth and well-being. Pleasant sensation, mild euphoria, decreased attention, and some reduced inhibitions.
.04	Feeling relaxed, energetic and/or happy. Motor skills are slightly impaired. Memory impairment and greater disinhibition.
.05	Feeling of light-headedness with lowered inhibitions and impaired judgment. Coordination is altered.
.10	Clear deterioration of coordination and reaction time, including possible staggering and slurred speech. Impairment of memory and comprehension.
.15	Significant impairment of judgment, balance and movement.
.20	Marked depression of all motor and sensory function. Clear signs of intoxication with slurred speech.
.30	Confusion and possible unconsciousness.

It is important to understand that any pilot who might drive a car after drinking some alcohol may be considered having engaged in alcohol abuse. Although drinking and driving is not the only hazardous conduct used to identify "alcohol abuse," it is probably the most obvious. As for drinking and driving, getting caught doesn't matter. Under the FARs, any drinking and driving could be considered abuse – even for the pilot who has never been caught and charged with a DUI.

Whether any activity is hazardous when combined with the consumption of alcohol depends on a large number of variables including: what type of activity (i.e., flying versus walking), and how much alcohol is involved. With that said, it seems clear that the FAA may call a particular activity "hazardous," while others may disagree.

The Diagnostic & Statistical Manual

For decades, the American Psychiatric Association has published and updated its Diagnostic and Statistical Manual ("DSM"). DSM-IV (recently replaced by DSM-5) defined substance abuse as:

A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:

1. ***Recurrent*** substance use resulting in a failure to fulfill major role obligations at work, school, home (e.g., repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household).

2. ***Recurrent*** substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use).

3. ***Recurrent*** substance-related legal problems (e.g., arrests for substance-related disorderly conduct).

4. Continued substance use despite having ***persistent or recurrent*** social or interpersonal problems caused or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights).

For the majority of people who fit the DSM-IV diagnosis of "alcohol abuse," the triggering factor was No. 2 – "physically hazardous" situations. The most common situation supporting an alcohol abuse diagnosis was ***recurrent*** drinking and driving. (Remember, under the FAA criteria, a pilot is medically disqualified for drinking and driving ***twice in his/her life***.)

The DSM-IV criteria for alcohol abuse have been widely recognized and applied not only in clinical settings, but are also used extensively in research and for reporting statistical data.

Both the National Survey on Drug Use and Health (NSDUH) and the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) contained questions derived from the DSM-IV criteria in order to assess the prevalence of alcohol-related disorders in the United States.

Several studies have been conducted to examine whether alcohol abuse and alcohol dependence represent distinct disorders, or whether abuse is just an early stage of dependence.

The studies show that alcohol abuse is an acute, rather than a chronic disease, distinct from dependence.

For instance, most persons diagnosed under the DSM

criteria with alcohol abuse are unlikely to become alcohol dependent. The studies also show that persons originally diagnosed with alcohol abuse were less likely to exhibit symptoms of abuse at follow-up.

As a medical diagnosis, it is more difficult to identify alcohol abuse than alcohol dependence. Numerous studies have indicated difficulties applying the DSM-IV criteria for alcohol abuse in clinical and related situations.

A key difficulty involves the meaning of the word ***"recurrent."*** DSM-IV does not define ***"recurrent."*** One study using the DSM-IV approach to alcohol abuse chose to define ***"recurrent"*** as driving after drinking four times or more within a one-year period. Some researchers doubt whether such behavior is sufficient or appropriate for making the diagnosis of a mental disorder.

Some medical experts have argued that alcohol abuse should not be classified as a mental disorder based on evidence of driving after drinking when this behavior does not occur in conjunction with other alcohol-related problems. These experts are not convinced that drinking after driving – while obviously unwise behavior – is the proper basis for a diagnosis of a psychiatric disorder.

DSM-5 takes a completely new approach to alcohol-related medical conditions. In fact, DSM-5 abandons the separation between alcohol abuse and alcohol dependence. At this time, it is unclear whether the analysis of the FAA alcohol-related medical rules will be influenced by DSM-5.

In summary, it is obvious that the FAA and the APA use drastically different situations and factors for identifying people with alcohol-related mental disorders. For pilots in the United States, the only rules that govern their flying privileges are those issued by the FAA – even if they do not conform to guidelines issues by other medical professionals. Do you believe that two instances of "abuse" of alcohol in a lifetime is a medical condition, which should disqualify a pilot from holding a medical certificate? Regardless of your beliefs, the FAA criteria for alcohol abuse as a disqualifying medical condition is "the law." As far as I can tell, the rewrite of the medical application required by the Pilot's Bill of Rights, will not include any major changes to the FAA's approach to "alcohol abuse."

Under these circumstances it is important for pilots to understand how drinking alcohol could cost them their flying privileges. To better understand your particular situation – if you drink alcohol – you should probably own a Breathalyzer.

EDITOR'S NOTE: Russell A. Klingaman is a panel attorney for the AOPA legal services plan, and the president of the Lawyer Pilots Bar Association. Additionally, he is a member of EAA, NBAA and many other aviation organizations, and teaches aviation law at Marquette University and UW-Oshkosh. Klingaman is an active pilot, an aircraft owner and a partner in the law firm of Hinshaw & Culbertson LLP in Milwaukee, Wisconsin: 414-276-6464, rklingaman@hinshawlaw.com. ❑

Air Charter Safety Foundation Announces New Chairman & Vice Chairman

ALEXANDRIA, VA. – The Air Charter Safety Foundation (ACSF) has selected David Hewitt, Executive Vice President, Safety of Wheels Up, as its new chairman, and Greg Kinsella, President and CEO of Key Air, as its new vice chairman, effective July 1, 2014. Hewitt succeeds Jeff Baum, President and CEO of Wisconsin Aviation, Inc. in Madison, Watertown and Juneau, Wisconsin, whose term expired June 30.


Jeff Baum

Hewitt is a founding member of the ACSF, and participated in the development of the ACSF Industry Audit Standard. He most recently served as the ACSF Vice-Chairman and Board of Governors since the foundation's inception.

Hewitt is the Executive Vice President, Safety of Wheels Up, the revolutionary membership-based private aviation company, launched in August 2013, that reduces the upfront investment needed to fly privately and provides its members the first total private aviation solution. Hewitt has held various positions within NetJets spanning a 13-year career. He has also been an FAA Aviation Safety Inspector at the Cincinnati Flight Standards District Office and a chief pilot/check airman/instructor for an on-demand charter operator in the Midwest.

Kinsella joined Key Air, a national aircraft management and global charter service provider in January 2012. Prior to his appointment to President and CEO, he held the position of Vice President Business Development, where he was instrumental in the expansion of Key Air's managed aircraft fleet.

A 20-year industry veteran, Kinsella has held key positions at major airframe and engine manufacturers (including British Aerospace/BAe Systems, Saab Aircraft and Rolls-Royce), global financial institutions and business aviation operations.

Previous to joining Key Air, Kinsella held the position of Chief Operating Officer for a national aircraft management company, where he was successful in expanding the business.

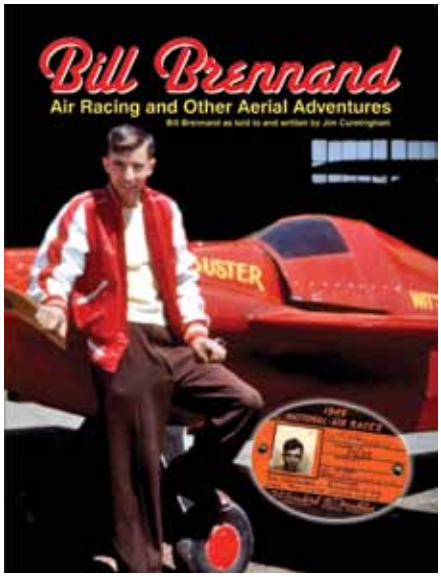
The vision of ACSF is to enable on-demand charter providers and fractional program managers to achieve the highest levels of safety in the aviation industry. This goal is achieved through the promotion of risk management programs, adoption of one common industry audit standard, through the dissemination of safety information, and the creation of additional programs that advance the goals of the foundation. ❑

"Bill Brennand," Air Racing & Other Aerial Adventures

Written by Jim Cunningham
As Told By Bill Brennand

When we think of Oshkosh, Wisconsin, we think of EAA, the Poberezny family, inventor and air race legend Steve Wittman, Warren and Pat Basler of Basler Turbo Conversions, aircraft inventor John Monnett, and another air race legend, Bill Brennand.

While working for Steve Wittman in 1947, Bill Brennand won the "Goodyear Trophy" at the National Air Races in Cleveland, Ohio without ever flying a practice course, out-flying veteran air race pilots of the times. In the years that followed, Brennand flew many more races and was in the winner's circle over half of the time. At age 28, Brennand retired from air racing and airshows to fly a Beech 18 for Marathon Paper Corporation. Later, he built and ran his own public-use airport – Brennand Airport (79C) –- located north of Oshkosh, and 4 miles west of Neenah, Wis., after the family farm where he flew became part of Wittman Regional Airport.



In the early 1970s, Bill Brennand oversaw one of the most remarkable aircraft restoration projects of all time – a 1931 Stinson Tri-Motor. Brennand and his team took the airplane from rotting wreck in Alaska to better-than-new condition, flying it at aviation events across the country for years. He also lent his personal seaplane base to the Experimental Aircraft Association in the early 1970s and developed it into one of the world's busiest seaplane bases for one week of the year during EAA AirVenture Oshkosh.

"Bill Brennand" told his story to aviation author, Jim Cunningham, in 148 pages, accompanied by 210 photos: $24.95 softbound, or $29.95 hardcover, plus $4 shipping. Check, Money Order, Visa or Mastercard accepted (include card number and expiration date). Mail to Airship International Press, P.O. Box 1543, Bloomington IL 61702-1543, or call 309-827-8039. ❑

New Fixed Gear Aviator Style Sunglasses From Scheyden

Scheyden Precision Eyewear has introduced the C-130 model sunglasses, expanding the brand's Fixed Gear collection, which includes the Albatross and Mustang models. The C-130 showcases a larger lens and titanium construction to give them added strength and durability with maximum optical clarity and comfort.

"Our friends and customers include scores of elite pilots, air racers and aerobatic stars who provide us constant feedback about the optical solutions they want and need inside and out of the cockpit," says Jeff Herold, company founder and an instrument-rated private pilot.

"With the C-130, we've added something special by marrying the world's most exquisite materials with sleek design for superior form and function."

Constructed with the finest components, the C-130 features a hand-welded titanium frame front and spring-loaded hinges for complete comfort, even when worn with a hat, headphones or headset. Strategically-placed acetate serves the dual purpose of providing an attractive look and eliminating incoming side light. Scheyden's distortion-free lenses are hand-ground and polished. They feature a hydrophobic coating to repel water and perspiration, and several layers of magnesium hexafluoride to diffuse ambient light and protect pupils from harsh reflections. The lenses also include a scratch-resistant finish and optional polarization.

For more information or to purchase Scheyden Precision Eyewear, go to: www.scheyden.com or call 800.851.2758. ❑

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THE STATE OF MINNESOTA PROVIDES THIS TECHNICAL BULLETIN IN THE INTEREST OF AVIATION SAFETY AND TO PROMOTE AERONAUTICAL PROGRESS IN THE STATE AND THE NATION

Cassandra Isackson, Director **Dan McDowell, Editor**

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Calling All Airport Board Members!

by Cassandra Isackson
Director, Minnesota DOT Office of Aeronautics


Cassandra Isackson

Yes, that's right; we want to meet you! We'd love to be invited to your meetings. Mom always told me I couldn't go to parties if I wasn't invited. So, send us an invitation if you'd like to meet us face to face. We'd like to hear what you need and let you know what we can or maybe cannot, do for you. It will give us a chance to assist you in real-time by providing current information and guidance on the issues you may be addressing. We can share information to help you with airport project funding plans.

Please keep in mind that it is vitally important for the FAA, MnDOT Aeronautics, airports, and pilots to have a shared vision about the airport system and the continued growth and safety of aviation in Minnesota. It is also important to remember to share information with your entire community about your airport and its value. Airports benefit every citizen, acting as the front door to their community. Overnight package delivery, emergency medical services, firefighting, agriculture, and commerce are just a few of the services airports provide the community.

We look forward to being invited to your meetings and to have the opportunity to get to know you, as well as to assist you. Please contact us by email or phone at:

Cassandra.Isackson@state.mn.us, (Director of Aeronautics), phone: 651.234.7210, or Kathy.Vesely@state.mn.us (Assistant Director of Aeronautics), phone: 651.234.7193.

By the way, if you have an event at your airport and you want to share the news, send the information to Dan McDowell, Public Affairs Coordinator, and he will direct your information to social media and web people in our office. We will be happy to add your event to our calendar and Facebook pages. ❑

Share The News About Minnesota's Airports!

Photos by Gary Chambers Photography, St. Louis, Missouri

America's airports continue to be a key factor in the sustained growth and success of thousands of businesses and cities, and also the nation. Airports strengthen the economy of this country by growing tourism, increasing the speed, effectiveness, and efficiency of business travel, and positively impacting the global economy.


Alexandria Municipal Airport

According to a late spring news release by Airports Council International-North America*, "America's commercial airports are powerful economic engines – generating billions of dollars in annual activity, and supporting millions of stable, well-paying jobs. Using data from more than 272 airport economic impact studies, a 2012 study found that U.S. commercial airports support nearly 10.5 million jobs, create annual payrolls totaling $365 billion, and produce an annual output of $1.2 trillion." The bulk of the dollars produced annually by airports comes from the nearly 500 large commercial service airports.

The fact remains, however, that America's airports, including General Aviation (GA) airports, are key components of this country's valuable and vitally important transportation infrastructure and national economy. Like their larger cousins, small and medium sized GA airports contribute significantly to the economic success of the city and/or county that owns and operates them, and the state in which they are located; every citizen benefits as well.

A 2011 Economic Impact Report completed by the University of Minnesota's Center for Transportation Studies, states: "In total, Minnesota small and medium sized airports created $434 million in output in the state in 2009, including 3,758 jobs and $184 million in labor income. This impact was created from expenditures by eight airport-based activities including: public airport operations and capital investments, fixed based operators (FBOs), commercial scheduled air service, retail businesses, general aviation, freight operators, private corporations with flight departments, and non-profit and 18 government entities. These airport-based activities spent $234 million in 2009, employed 2,337 individuals, and paid them $120 million in labor income."

A majority of Minnesota's airports are publicly owned and operated. They bring an easily seen value to their cities by opening a door to tourism and growth. Pilots with passengers fly into local airports, rent cars, eat at local restaurants, purchase services, products, and entertainment locally. This adds many dollars to the local economy that likely would not have come there were it not for the local airport.

Local airports are also magnets for businesses. Many businesses relocate to cities with airports so their personnel, products, and services have very fast direct access to flights in corporate and other GA aircraft. Some businesses will actively seek to build facilities on airport property. That adds to the financial viability of that airport, as well as to that business.

Airports are the landlords for a variety of businesses that lease facilities on airport property, whether or not those businesses directly or indirectly support aviation. Their revenues are derived from space/building rental, parking fees, service fees, food and goods sales, and airline space rental and landing fees. These income streams all help to make the airport financially viable while being largely funded only by those who use those services or fly into and out of public airports.

The airport infrastructure is provided and maintained through active long-term planning, funding, and management. A large portion of maintenance and improvement funding comes from federal and state grants or loans, with the smallest portion coming from the airport and/or its municipality. Thus, it is aviation user fees, and aviation taxes that pay for the airport.

In fact, when travelers purchase airline tickets or ship packages by air; or when pilots buy fuel for their aircraft and pay fuel taxes, the fees and taxes pay for things like airport construction and maintenance projects.

Turning once again to the economic impact study completed by the CTS, it shows that Minnesota's small to medium GA airports pumped more than $617 million into Minnesota's economy. Labor income was more than $183.6 million!

A significant part of the $617 million is produced by the more than 100 FBOs in Minnesota. Their impact cannot be denied as the report shows in labor income alone, FBO employees received nearly $39 million.

But it isn't just the dollars that bring tremendous value to our communities state-wide.

NBAA President and CEO Ed Bolen said in a very recent federal congressional hearing on aviation, "Airports are a key component in our transportation system, and they are a very important element in business aviation operations." He also stated, "It's worth noting that these smaller airports don't just benefit business aviation. Local airports serve a critical role in supporting flights for schools, universities, agricultural services, emergency medical services, postal services, fire and rescue teams, law enforcement and other services. The airports are also local economic engines, bringing people and goods from communities to national and global markets, stimulating local economic growth."

In a final comment at the close of his testimony Bolen said, "One of our nation's greatest strengths is the size, diversity, efficiency and safety of our aviation system…"

As you can see, our Minnesota airports are a valuable asset to Minnesota's cities, counties, and to the state. They provide many benefits not just to aviation, but to every citizen, even those who no longer fly or never have flown, even as a passenger.

So take time this summer to let people in your community know about the valuable asset the airport truly is. Share the news about Minnesota's airports!

*ACI-NA : http://www.aci-na.org/ or AirportsForTheFuture.org. ❑

Lessons Learned About GA, From Unlikely Sources

by Jim Hanson

It seems like it's been years since we had any good news in the General Aviation industry. Oh, don't get me wrong…innovation and new products come out all the time, but it seems that the "glory days" of constant innovation and the days when new aircraft produced numbered in the tens of thousands were a long time ago. Some date the "sea change" to the economic recession of 2008 – six years ago. Others date it to the collapse of the "Dot.com" bubble in the go-go late '90s, over 15 years ago. Still others date it to the rise of legal proceedings in the early '80s, leading some manufacturers to go out of business, and for industry-leader Cessna to suspend production of piston-powered aircraft. That was 28 years ago. The real geezers (myself included) point to the high point of the mid to late '60s, when Cessna cranked out over 15,000 airplanes every year, including over 3,000 Cessna 150s. That is coming up on 50 years ago. That's a long stretch of bad news, even for optimists like pilots.

It seems like there are culprits a-plenty. Some of the best known are the Federal Aviation Administration (FAA) with burdensome pilot regulations…the manufacturers with high prices…the legal system with outrageous and "innovative" tort claims…the FAA, again, with an old-fashioned manufacturer and parts approval process that stifles new ideas…government taxation on manufacturers and income, which increases the price of parts and planes, and reduces disposable income…the internet, which takes up time, stifles interaction, and substitutes artificial online adventures for actual adventure…"multi-tasking" (we used to be identified by our jobs or our hobbies – "I'm a pilot, or bowler, or golfer, or fisherman." Now we do all of these activities in our leisure time. Even our aviation advocates are blamed – AOPA, EAA, Helicopter Association of America, Balloon Federation, Seaplane Pilots Association, General Aviation Manufacturers Association, and the Soaring Society of America should have done MORE!

Jim Hanson

Let's face it – if you WANT to find a reason not to fly, it's easy! These reasons aren't new…they've all been raised for 100 years.

I save all of my old aviation magazines, going back into the 1950s. It's fun to go through them and track the introduction of new products and the complaints of pilots through the years. You'll find that many of the reasons for not flying have remained the same (cost and regulation), some have increased over the years (legal challenges – ever-increasing certification costs for pilots and aircraft, increased demand upon our TIME). Some, like fuel costs and the cost of new aircraft, have EXPLODED over the period. It's not just ONE thing that has caused the problems with General Aviation; it's ALL of the things. It's a "perfect storm" – a confluence of issues for us to deal with.

I started looking for some good news, and there IS some. New in-cockpit avionics abound and the prices are becoming more competitive. It seems that each magazine issue features a "must-have" gadget, and like the computer world, most become obsolete in 3 years. Some unlikely manufacturers stand out – Robinson is now the manufacturer of the largest number of new aircraft in North America – and their product is helicopters – not airplanes. Right here in Minnesota, Cirrus has supplanted Cessna as the manufacturer of the largest number of GA airplanes. More good news…the "alphabet" trade organizations have learned how to oppose outrageous FAA proposed regulations with a high success rate. Our aviation press (like this magazine) has helped galvanize the trade into action. The FAA – for its part – has "gotten the word." The agency is actively looking at changing Part 23 certification standards, many of which date back to the 1930s, to reflect today's realities in manufacturing, and to cut certification costs while increasing safety. Unfortunately, FAA officials have not gotten the word on obsolete regulations, like the third class medical. Here in Minnesota, the state legislature is proposing an "un-session" to review and revoke outdated laws. Wouldn't it be great if the FAA (and every government agency, for that matter!) did the same on a regular basis?

When it comes to the total number of pilots, the total hasn't changed that much, according to the FAA.gov website. Comparing the numbers from 2013 to a decade earlier, the total number of pilots is down only slightly – from 625,000 to 610,000. The biggest decrease was in Private Pilots, down from 241,000 to 188,000. Commercial certificates were down only slightly, from 124,000 to 116,000. Glider-only pilots stayed the same at 21,000, but the number of glider ratings (including those adding to their power rating)

has doubled since 2003. ATP-rated pilots were up slightly from 144,000 to 146,000.

Surprisingly, student pilots increased from 87,000 to 120,000, erasing much of the loss of Private Pilots.

LSA-only certificates now number 4493. What has changed is that a smaller percentage of the population now consist of pilots, and the industry is trying to change that.

Some people argue that "The pilot population is aging…young people aren't getting into aviation," but FAA statistics do not support that. In both 2003 and 2012, the average age of all certificate holders was 44.7 years—no change! The average age for student pilots decreased from 34.0 to 31.5, commercial pilots from 45.6 to 44.8, private pilots increased from 46.5 to 48.3, and ATP pilots from 47.0 to 49.9. Contrary to the intent of the Sport Pilot Certificate to bring in younger pilots, Sport Pilots are older than all other certificate holders on average, going from 53.2 at the inception of the law to 54.7 today.

One of the surprising bright spots in the pilot picture is "sport aviation." Homebuilt/Kit-built builders are now outpacing the aircraft factories in turning out General Aviation airplanes. Industry leader Van's Aircraft has turned out over 8,000 completed aircraft kits, and those aircraft have proven to be very reliable, turning out a safety record that is the equal to "certified" aircraft, while providing fast, efficient transportation and fun flying at a reasonable cost.

Think about this… How much driving would we do if many of us had to build our cars from kits in order to own a vehicle at reasonable cost? Much of the real innovation in aviation comes not from government regulation, and not from government "think tanks" and special projects, but from private aircraft designers, kit manufacturers, and entrepreneurs. Think about it… You can equip your homebuilt with avionics that would make a jet pilot envious for a fraction of the cost. Even "mainstream" manufacturers like Garmin are now offering "uncertified" avionics for homebuilts and non-certified aircraft. Are these "uncertified" avionics less safe? The record doesn't show that.

Light Sport Aircraft (LSAs) in "certified" versions (not certified by FAA, but by industry consensus), "experimental" versions (meeting the speed, passenger capacity, and weight limitations of LSAs, but with non-certified engines or construction), and "legacy LSAs" (older production aircraft and their clones that meet the LSA limitations) have made gradual inroads in aircraft sales.

When first introduced a few years ago, LSAs were expected to be the "great savior" of General Aviation – cutting the cost of learning to fly –

introducing hundreds of thousands to affordable General Aviation, and providing "affordable aircraft." Like so many other FAA and industry forecasts (think "Recreational Pilot Certificate" and "Very Light Jets" that were also predicted to fill the skies), reality trumped wishful thinking. An unrealistically low maximum gross weight designed to the European standard of 600 kg/1320 lbs meant that the aircraft often were under-designed for the flight training role in order to adhere to the artificial weight requirement, though some have been beefed up to address that shortcoming. The last-minute buzzkill by the FAA of not allowing the driver's-license medical, if you had your last FAA medical denied, meant that thousands of certificated pilots can't participate as LSA pilots.

LSAs have fallen into two categories – new Euro-designs, and "legacy" old designs that meet LSA standards, like the Cub/Champ/Luscombe/T-Craft/Ercoupe and their clones. Despite these artificial impediments, LSA aircraft continue to offer fun airplanes to old and new pilots alike.

Perhaps the BIGGEST surprise is to be found in the categories of aircraft and pilots who fly just for fun! Holding their own are certified glider pilots. LSA pilots are on the increase. Antique-Classic membership is up. Balloon activity is no longer counted by the FAA, but according to industry accounts, after declining for several years, balloon activity is again "on the rise" (okay, that's a bad pun). Legal ultralights are making a comeback; they declined when many owners converted their aircraft to LSAs, but true ultralights are on their way up (okay, another bad pun!). Skydiving has set all-time participation records for the last two years.

Why are these segments doing so well in comparison to the rest of General Aviation?

Possible answers:

• There is no pretense by non-commercial operators that these activities have any purpose other than fun. They are not being sold as transportation…they are just for fun! No apologies for having fun, just like sports cars, Harleys, snowmobiles, campers, NASCAR, cross-country skiing, biking, or any other fun transportation. Yes, there is an element of utility in many outdoor sports, but they are marketed as being fun!

• These simple aircraft are among the least regulated aircraft in the United States today. Most of these "fun fliers" shun large airports and congested airspace. As fun fliers, they just want to be left alone to pursue their activity. They operate instead "under the radar" from rural grass airfields, where they are unobtrusive, and are left to ply the skies in peace. Despite the lack of regulation, lack of medical certification, and the charge that these are "toy" aircraft, these pilots turn in a safety record equal to or better than pilots of normal-category aircraft.

• Almost all of the successful categories listed are "group activities." You can't launch a balloon by yourself, and you need a chase crew to retrieve it. Same for gliders…it takes someone to help rig, to get the glider out to takeoff position, a wing runner, and a tow pilot (unless you have self-launch capability). Skydivers need a jump pilot and other people to do relative work with. Antique/classics and legacy LSAs need someone to spin the prop. More participants equals more fun, and a sense of participation and "belonging."

• Almost all of the successful activities are "club activities." That means shared activities, and often shared ownership. Clubs are often organized as cooperatives, or coops – a great Midwestern tradition. Clubs are organized for the benefit of the members, and often provide services at cost. They offer the sometimes intangible value of pride of ownership ("this is MINE"– or "I have a part-ownership in an airplane"), as well as the sense of belonging to an organization, in addition to spreading the fixed cost of ownership among the members.

• Almost all of the successful activities offer social benefits. Glider pilots, for example, usually quit flying when the lift abates in late afternoon, then plans are made for an impromptu grilling or dinner. Glider pilots often get together during Midwest winters, when gliders are put away for the season, simply because they enjoy the shared company of each other. LSA and antique/classic pilots trade rides in their aircraft. Side Benefit: These "social activities" usually include spouses and family…a way for the entire family to become involved.

• Members have greater participation in these special activities than the norm in General Aviation.

• Almost all members of the successful activities tend to stay with the sport for longer periods of time. Members of antique/classics groups tend to become life-long members. Glider pilots have a much higher retention of pilots than power pilots. Balloon pilots tend to stay with the sport. A large and growing portion of LSA pilots tend to be previously rated pilots who want to extend their flying career, either for medical or "downsizing" reasons.

Again, does this longevity and activity in the sports class of aviation become the cause or effect? Do these participants stay in the sport because of the social benefits and activities NOT experienced in day-to-day powered aircraft flying? Evidence would seem to support this.

• Costs are lower for this class of aircraft. Avionics are a large part of the costs of GA aircraft – transponders, encoders, nav-com radios, autopilots, FAA-mandated ADS-B in and out. Not so for gliders, skydivers, balloons, true ultralights, and vintage aircraft… Most of the time, a handheld radio and GPS will suffice. Fixed costs for these aircraft are relatively low as well.

Annual inspections on a glider are relatively cheap (no engine), as is the case for balloons and ultralights.

LSAs and vintage aircraft are usually built for easy field maintenance, and pilots often enjoy working on them. It is part of the experience.

Insurance is relatively cheap…most of these aircraft seat only the pilot or pilot, plus one passenger.

Hangar? Skydivers and balloons do not need hangars, and gliders and many LSAs are built to trailer home.

There are no medical certification costs for skydivers, balloons, gliders, true ultralights, or LSAs.

Fuel? Gliders only use fuel for the towplane, auto launch, or winch tow. Balloons use propane. Ultralights, LSAs, and vintage aircraft can usually use auto fuel, and very little of that. Skydivers usually have a full load climbing to altitude, which results in a cheap "launch" per person.

For flying on a budget—these aircraft are affordable. There seems to be a link between the growth of this segment of the industry and the decline of the rest of the industry.

What can the industry learn from the success of Sport Aviation?

1. Resist calls for more regulation in the name of "safety." There is little correlation between more regulation and increased safety. Peer pressure, good aircraft design, and education have a much better effect.

2. Don't apologize for selling aviation as pure fun. Those that want to gain utility will find a way to do so, but sell aviation for what it is – pure fun. It's the fun of learning something new, the fun of being able to do something that few others can do, the fun of viewing the world from a perspective not viewed by many others, the fun of handling a machine well, the fun of the tactile feedback one gets from aircraft as it "talks" to the pilot, the fun of mastering a personal challenge, the fun of camaraderie with others, the fun of sharing your perspective with a passenger.

3. Don't "oversell" the transportation aspect. Let the would-be-pilot know the real costs of aircraft ownership and learning to fly. Each pilot will find their "comfort level" for learning, utility, and financial ability.

Instead, ask the prospect to lower his expectations. The fun of a "Fire-Eater 400" goes away fast if the owner can't afford it, and it poisons the well of potential pilots if the owner says he had to sell it "because GA is too expensive."

EDITOR'S NOTE: Jim Hanson is the long-time fixed base operator in Albert Lea, Minnesota. Jim has "observed a lot, just by watching" over the years in the business. Hanson is just as glad to do business with a "fun flyer," as he is with a corporate account (maybe more inclined, as Jim likes to have fun, too). Jim flies jets, turboprops, and corporate airplanes, but also flies seaplanes, helicopters, balloons, ultralights, LSAs, vintage aircraft and gliders. If you have a suggestion for Jim on how he can have more fun with airplanes, he can be reached at the airport at 507 373 0608 or via email at jimhanson@deskmedia.com ❑

Cirrus Pilot Club Formed At Anoka County-Blaine Airport, Minneapolis

BLAINE, MINN. – Twin Cities Aviation, located at Anoka County-Blaine Airport, has formed a "Cirrus Pilots Club" to bring together Cirrus pilots from not only the five-state region, but from around the world.

The club plans to have an active maintenance hotline, a pilot chat room, quarterly seminars, flying trips, reduced rental and instruction rates, and a price break on Cirrus parts, to name just a few benefits.

The Cirrus Pilots Club will officially get underway August 9, 2014, when Twin Cities Aviation hosts a Cirrus open house, fly-in and barbeque at its facility from 9:00 am to 5:30 pm at Anoka County-Blaine Airport.

"This will be the first full-service Cirrus Pilots Club that will provide one stop for maintenance issues, flight instruction, and general flying of Cirrus Aircraft," said General Manager Paul Perovich. "We will finally have a place for all Cirrus pilots to get together and share and learn."

For more information, contact Twin Cities Aviation at 763-780-4375, or attend the open house. ❑

"Launch Your Career In Aerospace"

by Jon Beck

Jon Beck of Northland Community & Technical College amidst and assortment of unmanned aircraft systems.

We live in exciting times with amazing possibilities in the aerospace industry. With new innovations every day, the expanding field is evolving at a rapid pace. Being a part of the aerospace industry and involved with UAS (Unmanned Aircraft Systems) technology leads to many intriguing discussions that stretch the imagination. Often technological advances bring challenges, sometimes met with skepticism that must be addressed with education to understand the technology and the benefits it can provide to improve lives.

Henry Ford once made the statement, "If I asked people what they wanted, they would have said faster horses," but he saw a different answer that led to a totally new industry. Today, we need people who have a vision for the next big step.

The Minnesota State Colleges and Universities (MnSCU) have some great programs for students to learn about all aspects of the aerospace industry. Through the MnSCU Transportation Center of Excellence (COE), consortium members have been working to strengthen relationships across colleges and high schools in the region. Over the next year, you will see articles in *Midwest Flyer Magazine* from aviation instructors across Minnesota uncovering pathways to aviation education, leading students to lifelong, fulfilling careers in these STEAM disciplines. (STEAM is an acronym our partners at Farnsworth Aerospace K-8 and Johnson High School in St. Paul, Minnesota have adopted as they added Aerospace to STEM in their K-12 curriculum).

Unmanned Aircraft Systems (UAS) are one innovation on which the media has reported extensively in recent years. Known by many terms, commonly "drones" in the media, this new field is creating some exciting possibilities for future technicians. They have become a great way to inspire young minds into an emerging STEAM field.

Imaginations are running wild at the potential these systems bring as illustrated by Amazon's CEO Jeff Bezos announcing Amazon's intent to use drones from their distribution centers to deliver packages, 5 pounds or less, to customers within 30 minutes of placing an order.

Similarly, the University of Cincinnati began to explore the idea of turning UAS into an extension of delivery trucks. They are working on a research project that would allow for UAS to be deployed from the delivery truck, delivering small packages, while regular service drops off the larger packages. I believe when companies like Amazon make these types of bold announcements, it provides positive incentive to develop new technologies, as well as inspire the imagination of the next generation of innovators.

I think back to a few months ago when Buzz Aldrin spoke at the "GO BOLDLY" event in St Paul, hosted by Airspace Minnesota. He spoke about world leaders making bold announcements with defined timelines that exceed the current capabilities, as a powerful force to drive innovation.

On June 25-26, 2014, I was fortunate enough to attend the 8th Annual Red River Valley UAS Action Summit. This event is designed to bring together government, industry, educational institutions and the general public.

Michael Tuscano said it best: "If you give good information to smart people, they make good decisions." He continued: "It is incumbent upon the members of the UAS community to provide education on UAS, so the public understands the technology and the applications that exist, as well as the challenges we face for integrating it safely."

The challenges are a serious issue, but education is the key to unlocking the potential that exists. At the summit, Melissa Rudinger, Vice President of Government Affairs for the Aircraft Owners and Pilots Association (AOPA), related how three years ago she received very passionate and numerous negative

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responses to articles about unmanned aircraft systems in AOPA Magazine. She felt that much of this was influenced by the negative connotation of military-only use of UAS and concerns over the impact of these systems. Now people are starting to see applications emerging in precision agriculture, wildlife monitoring, pipeline inspection, wind turbine inspection, weather studies, aerial photography, real estate, and many more areas. AOPA is welcoming and even helping in the efforts to integrate UAS into the national airspace system, safely, without negatively impacting the existing system.

This acceptance has come about by the hard work of many to engage in the discussion and look at the tough questions, like, "What are UAS and what are they doing here?" Minnesota and North Dakota have been pioneers at answering the questions surrounding UAS applications that exist today, stirring the imagination for tomorrow, and seeing the need for highly educated technicians to embrace and safely integrate this new technology.

Beginning in 2009, the University of North Dakota launched the nation's first UAS Pilot Certificate Program from their long-standing professional flight program.

In 2011, Northland Community and Technical College launched the nation's first UAS Maintenance Training Program from its long standing (since 1959) Aviation Maintenance Technology, Airframe and Powerplant (A&P) Program.

In 2013, Northland launched the nation's first two-year technical program to train Imagery Analysts on processing the large amounts of data that are produced from various platforms such as satellites, traditional aircraft and UAS.

With the desire to reach more people, Northland began offering courses in a Cisco Tele-Presence classroom, which allows for distance education on UAS. Cisco Tele-Presence is a high-end video conferencing environment, which allows instructors to extend their classroom, while maintaining contact and visual interaction with students at multiple locations. The classroom environment is accessed using WebEx and a number of other compatible interfaces.

These programs are providing the valuable training needed by technicians: to understand the software-driven operating systems controlling UAS; the changes taking place in the aviation industry; and education on composite structures, electronic systems, computers and unique operational concepts of UAS. Minnesota has many other programs that will provide critical education for the technological advances in the aerospace industry, such as air traffic control, professional flight, aviation management, and aerospace engineering.

The University of Minnesota, Twin Cities, has a UAV research lab performing research on GPS limited environments, flutter-suppression techniques and enhanced fault detection. This research is designed to explore answers to some of the challenges facing the UAS industry.

The FAA has been working tirelessly at a plan to integrate UAS into the national airspace system. They are currently working on the regulations to address small UAS operations and are expected to release a notice of proposed rulemaking by the end of this year (2014). They are also working to start up the FAA UAS Center of Excellence, which will be a geographically dispersed consortium consisting of the FAA, and university partners and their affiliates to conduct UAS-related research, education and training, while working jointly on issues of mutual interest and concern.

Recently, in December 2013, the FAA also announced six test sites across the nation that will help the agency develop research findings and operational experiences to help in the integration process.

The North Dakota Department of Commerce was selected as one of the six test sites known as the Northern Plains UAS Test Site, and has the historic milestone of becoming the "First Operational" test site in the nation. This continues to increase the hub of activity for which the region and states are becoming well known.

Some of the first research projects UND and NDSU have begun will explore uses of UAS for agriculture in conjunction with researching airworthiness certification, validation of high reliability link technology, and sense and avoid systems.

Northland has begun conducting small UAS operations using the Vireo system manufactured by a Minnesota-based company, Fourth Wing Sensors of Mankato. This required an individual approval from the FAA known as a Certificate of Authorization (COA) to conduct flights gathering imagery of agricultural land in Roseau County. This data will then be used in Northland's Imagery Analysis program to process the data into information that would be useful to a grower.

Beyond the educational opportunities, the region offers the Grand Forks Air Force Base, which is home to the medium-altitude, long-endurance MQ-1 and MQ-9 UAS used by U.S. Customs and Border Protection and the Air Guard, and the high-altitude, long-endurance RQ-4 UAS, used by the U.S. Air Force. In central Minnesota, the Minnesota Guard uses the tactical RQ-7B Shadow and RQ-11 Raven UAS at Camp Ripley. Northrop Grumman and General Atomics personnel support the Grand Forks operations, and Textron personnel support operations at Camp Ripley. These companies have hired a number of graduates from Northland and UND's UAS programs, and have placements across the country and the world. The Grand Forks Air Force Base is planning to lease 217 acres to Grand Forks County to build a UAS Research and Development Park. Activities like these will continue to increase the growing need for technicians educated in UAS technology in our region.

The Midwest has always been a leader in the aviation community and there is nowhere better to influence UAS education and integration. As the

discussion is going, bring your passion and continue leading the nation in the aviation industry.

The partnerships of MnSCU, other college and university partners and high schools in our region, along with industry supporting education, will allow us to create professional development opportunities to educate high school and college faculty on the flight path these STEAM disciplines in aerospace and UAS will take. A further goal will be to develop more summer camps for K-12 students to explore the possibilities that exist in aviation and how education leads to success.

It's an exciting time to be in the aviation industry. Many people compare the current state of UAS to computers in the 1980s. I think of the amazement there would have been, not too long ago, if you told someone they could slide their fingers across glass and magic would happen behind the screen. Someday, applications for UAS will be like the apps on an iPhone. Until then, we will continue educating the public and technicians to be ready for tomorrow.

EDITOR'S NOTE: Jon Beck is the UAS Instructor/Program Manager at Northland Community and Technical College, Thief River Falls, Minnesota. ❑

Illinois Airports From Page 31

Blessing Hospital is the largest and most sophisticated medical center in a 100-mile radius, with a medical staff of more than 240 physicians and a team of more than 2,000 employees.

The Five Prop, Airport Restaurant of the Year Award went to The High Flyers Grille at St. Louis Regional Airport in East Alton.

The High Flyers Grille is located in the newly remodeled Old Terminal Building and features a mix of traditional American comfort food. ❑

Calendar

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NOTAM: Pilots, be sure to call event in advance to confirm dates and for traffic advisories and NOTAMs.

Also use only current aeronautical charts for navigation and not calendar listing information.

Midwest Flyer Magazine is not responsible for accuracy of information published.

* Indicates any new or updated calendar listings since the previous issue.

AUGUST 2014

1-3 Oshkosh (OSH), Wis. - http://www.airventure.org/

3 Red Wing (RGK), Minn. - Sturdiwheat Pancake & Little Smokies sausage breakfast 8am-Noon in conjunction with River City Days Celebration.

3* Longville (KXVG), Minn. - Northern Minnesota's finest fly-in pancake breakfast! Antique cars, helicopters, 50 cent discount per gallon on 100LL for fly-ins!

6* Stevens Point (STE), Wis. - Hamburger (or similar) Social Night 5-7pm.

7* Eagle River (EGV) Wis. - Hamburger (or similar) Social Night 5-7pm.

9 Rice Lake (RPD), Wis. - Fly-in 7am-4pm, free breakfast for pilots, acrobatics, displays.

10 Huron/Wakeman (I64), Ohio - Pancake, scrambled eggs & sausage breakfast 8am-Noon at Ornter Airport.

10 Paynesville (PEX), Minn. - Pancake & sausage breakfast 7:30am-12:30pm.

13* Wausau (AUW), Wis. - Hamburger (or similar) Social Night 5-7pm.

14* Land O' Lakes (KLNL), Wis. - Hamburger (or similar) Social Night 5-7pm.

16 Spokane (SFF), Wash. - AOPA Regional Fly-In at Felts Field. www.aopa.org/

16 Indianapolis (7L8), Ind. - Taildragger Rendezvous featuring homebuilt, classic, & WWII warbird aircraft, classic cars & fine food 10am-2pm at Post Air Airport.

16 Forest Lake (25D), Minn. - Open House & Fly-In, 7 am to 4 pm: 651-373-3779. www.forestlakeairport.org/.

16 Mason (TEW), Mich. - Mason Aviation Day. Pancakes, eggs, sausage 7:30-11am. Grilled Steak lunch Noon-2pm. www.eaa55.org.

16* Appleton (ATW), Wis. - Second Annual Pork n' Props Fly-In. RSVP Takeoff@PlatinumFlight Center.com

16* Maple Lake (MGG), Minn. - Pork Chop Dinner 11:30am-2pm. Shuttle to "Gear-Head Get Together." Craft show 10am-3pm.

16* Sparta (8D4), Mich. - Breakfast & Home Built / Restored Aircraft Build Off! Hosting Veterans of 101st Airborne Ass'n. Memorable jump at 11am.

16* El Dorado (EQA), Kan. - Hot Breakfast 8-11am.

16-17* Lone Rock (LNR), Wis. - Fly-In, Drive-In Camp On the Prairie & Bring Your Fiddle. The event is supported by FMA (Flying Musicians Association) and is open to the public. It will include a piano performance by Jens Luebow on the 16th at 7:00 pm. Attendees are encouraged to bring their instruments along for jamming/performing. No admission fees, camping also free.

17 Mankato (MKT), Minn. - Pancakes, eggs & sausage breakfast 7:30am-12:30pm.

17* Boyceville (3T3), Wis. - Breakfast 7-11am. CTAF 122.9.

20* Wisconsin Rapids, (ISW), Wis. - Hamburger (or similar) Social Night 5-7pm.

21* Phillips (PBH), Wis. - Hamburger (or similar) Social Night 5-7pm.

23 Glencoe (GYL), Minn. - Sweet Corn & Bratwurst Feed Fly-In 10am-2pm. 320-238-2376 / 320-583-8367.

23 Noblesville (I80), Ind. - Pancake breakfast 8-11am.

23-24 Washington C H (I23), Ohio - Fly-In/Camp-Out with food & activities all day 8am-6pm at Fayette County Airport.

23-24* Waukesha (KUES), Wis. - Airshow featuring Patty Wagstaff & Susan Dacy. B-17 & other aircraft - vintage, contemporary, military & civilian aircraft. www.wingsoverwaukesha.com

24 Juneau (UNU), Wis. - Pancake breakfast 8am-Noon at Dodge County Airport.

24* Windom (MWM), Minn. - Pancake & French Toast Breakfast 8am-12:30pm. (122.9) 507-830-0273.

24* Greenfield (GFZ), Iowa - Annual Wings Omelette Breakfast 7:30-11am. Purchase of meal includes free admission to the museum until Noon. www.flyingmuseum.com

27* Merrill (RRL), Wis. - Hamburger (or similar) Social Night 5-7pm.

28* Tomahawk (TKV), Wis. - Hamburger (or similar) Social Night 5-7pm.

29* Eau Claire, Wis. - Ford Tri-Motor Tour Stop 9am-1pm. To book a flight call 1-800-359-6217.

30 Shell Lake (SSQ), WIs. - Pancake, sausage & beverage breakfast 7:30-11:30am.

30-9/1 Cleveland (BKL), Ohio - Cleveland National Air Show at Burke Lakefront 9am-5pm. www.clevelandairshow.com.

SEPTEMBER 2014

1 Cleveland (BKL), Ohio - Cleveland National Air Show at Burke Lakefront 9am-5pm. www.clevelandairshow.com.

4* Manitowish Waters (KD25), Wis. - Hamburger (or similar) Social Night 5-7pm.

6 St. Paul (SGS), Minn. - CAF Mn Wing Fall Hangar Dance at Fleming Field.www.cafmn.org

6* Cable (3CU), Wis. - Join us for a free pancake breakfast at the Cable Union Airport Annual Fall Fly-In and enjoy the fall colors!

7 New Ulm (ULM), Minn. - Breakfast 7:00 a.m. to 12:30 p.m. All Pilots Eat Free. 507-354-6080.

8-12 Mackinac Island, Mich. - Michigan Ass'n of Airport Executives Conference at Mission Point Resort.

13 Oconto (OCQ), Wis. - Fly-In & Car Show 9am-5pm. RC Show 2pm.

13* Oshkosh (OSH), Wis. - Pancake Breakfast & Airport Expo 7:30-11am at the Wittman Airport Terminal.

14 Poplar (C77), Ill. - Pancakes, eggs & sausage breakfast 7am-Noon.

14* Stanton (SYN), Minn. - Rescheduled Father's Day Fly-In 7am-Noon.

14-16 Kansas City, Mo. - 4 States Airport Conference at Marriott Downtown. www.4statesairportconference.com

20 Chino (CNO), Calif. - AOPA Regional Fly-In. www.aopa.org/

20 Grand Rapids (GPZ), Minn. - Pancake Breakfast 8am-Noon. 217-348-4424.

20 Lee's Summit (LXT), Mo. - Pancake Breakfast 8:30-Noon.

21 Peru (KVYS), Ill. - Pancake & Sausage Breakfast 7am-Noon. $7 pp: illinoisvalleyflyingclub.com.

21* Hector (1D6), Minn. - Breakfast 7:30am-12:30pm. 320-848-2745.

21* Hinckley (O2C), Ill. - Pancake Breakfast.

22-23 Bemidji (BJI), Minn. - Mobergs EAA 1397 floats & wheels. 22nd-Camping, BBQ & movie. 23rd-Lunch & all day event. web.paulbunyan.net/1397/

24-25 Stevens Point (STE), Wis. - 2014 Wisconsin Airport Operations & Land Use Seminar Hosted by the Wisconsin Bureau of Aeronautics at the Stevens Point Holiday Inn and Convention Center.

25-26 Wichita, Kan. - Kansas Aviation Expo.

25-28 Keokuk, Iowa - L-Bird Fly-In & Convention. Pancake Breakfast - Saturday morning. Formation flights, bomb drop & spot landing competitions, vintage & restored aircraft.

27* East Alton / Bethalto (ALN), Ill. - St Louis Regional Airport, Car Show & Fly-In Open House 10am-4pm. 618-259-2531 / 1-888-562-9950.

28* Joliet (JOT), Ill. - Pancake & Sausage Breakfast 8-11am. Warbird display & children activities.

OCTOBER 2014

4 Frederick (FDK), Md. - AOPA Homecoming Fly-In. www.aopa.org/

4 Greenville (GRE), Ill. - Airstravaganza - Static displays, food, rides, T-34 demo team. 10am-5pm. 618-664-0926 for more info. Rain date 5th.

5 Noblesville (I80), Ind. - BBQ lunch Noon-6pm.

5 Watertown (RYV), Wis. - Pancake Breakfast & Airport Open House 8am-Noon; Airplane Rides 10am-1pm; Various Displays/ Demos throughout the day.

12 Poplar (C77), Ill. - Pancakes, eggs & sausage breakfast 7am-Noon.

14-17 Florence, Ind. - Aviation Association of Indiana (AAI) Annual Conference At the Belterra Resort Hotel.

21-23 Orlando, Fla. - NBAA 2014 Business Aviation Convention & Exhibition. www.nbaa.com

2015

FEBRUARY 2015

12 Madison, Wis. - Wisconsin Bureau of Aeronautics Engineer's Workshop will be held at the Crowne Plaza Hotel. Registration go to http://www.dot.wisconsin.gov/news/events/air/engineers-workshop.htm.

APRIL 2015

15-17 St. Cloud, Minn. - Minnesota Airports Conference at Rivers Edge Convention Center.

MAY 2015

11-13 La Crosse, Wis. - Wisconsin Aviation Conference at the Radisson Hotel. For additional information go to www.wiama.org, or contact Bob O'Brien at 815-757-2869.

NOVEMBER 2015

17-19 Las Vegas, Nev. - NBAA 2015 Business Aviation Convention & Exhibition. www.nbaa.com.

Check out the Wisconsin Flying Hamburger Socials to fly to on weekdays for fun & evening meals.
www.wisconsinflying.com/flysocial/socials/socials.html
Airports or EAA Chapters, please go to the site to find out how you can be a part of this.

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1979 CESSNA 172RG - 7545 TT, 7 SMOH, RT385A Nav/Com with G/S, R-546 ADF, RT359A Transponder, Intercom, EGT, Whelen Beacon Strobe, Tanis Heater, New Battery, Wing Strobes. $59,900. **Contact Butch Detjen at Airways Aviation Center: 218-326-1226.**

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T-HANGAR RENTALS – La Crosse Regional Airport, La Crosse, WI. Various door sizes and options. Visit http://www.lseairport.com/hangar-rentals.php for availability. Call airport manager's office for rental at **(608) 789-7464 or email torpc@lseairport.com.**

HANGAR FOR SALE – Wisconsin – Dodge County Airport (KUNU) – 40W X 32D, Door 38'9"W X 10'H. $27,500. Contact **Mary at 920-386-2402 or Mary.Gasper@WisconsinAviation.com.** More details and photos available at **WisconsinAviation.com.**

HANGAR FOR SALE – Wisconsin – Dodge County Airport (KUNU) – 50W X 60D, Door 44W X 11H. $60,000 or OFFER. Contact **Mary at 920-386-2402 or Mary.Gasper@WisconsinAviation.com.** More details and photos available at **WisconsinAviation.com.**

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.....$32,900

1981 Cessna 414AW RAM VII – N414MJ
Beautiful! 5680 TT, 114/52 SRAM! Dual 530Ws, S-TEC 65, 497 Skywatch! Radar, stormscope + XM Weather! MFD, 406 ELT.....$549,000

1980 Piper Dakota – N8183X
6535 TT, 1680 SMOH, 487 SPOH, January 2014 annual, Garmin GTN 650! Aspen Evolution 1000 Pro EFD! Garmin Aera 796 with XM Weather! 406 ELT, Autocontrol IIIB, clean! New leather seats!.....Reduced to $89,900!

1977 Cessna 414 – N126BT
3500 TT, 917/874 SMOH, 367 SPOH, November annual, KX-165, KX-155, Argus 5000, Trimble 2000, 696 Weather, VGs. Priced for immediate sale at .....$139,900!

1979 Cessna 310R – N2638Y
Solid-performing, well-maintained aircraft operated by private owner. Rare 203-gal fuel, boots and hot props, Garmin 430W, HSI, color radar, 9415 TTSN, 1100 SMOH
.....Price reduced to $104,500!

1979 Piper Navajo Panther – N56ND
Full Panther conversion to 350hp, 4-blade Q-tip props, winglets, VG's, 6700 TT, 680/860 SMOH, known ice, A/C, oxygen, GNS530, KFC200 AP w/FD & HSI, radar, professionally flown, operated & maintained.
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k

by Dave Weiman

BLAINE, MINN. – There is so much happening at Anoka-County Blaine Airport/Jane's Field (KANE) nowadays with over 400 based aircraft, more than a dozen air charter and aircraft maintenance businesses and flight schools, a world-class museum, and a restaurant and entertainment complex on the horizon, that its aviation story is worth sharing year after year at "Discover Aviation Days" (DAD). This year's fly-in/airport open house was held May 31 and June 1, 2014.

Discover Aviation Days was open each day from 7:00 a.m. to 4:00 p.m. There was no admission charge, but automobile parking donations were welcomed, and there was a raffle to raise additional capital.

At one point on Saturday morning, there was so much air traffic that the controllers at the contract tower could hardly keep up, and were turning away visitors to the tower.

DAD is hosted by a committee made up of pilots, airport tenants and business owners, coordinated by Craig Schiller, curator at the Golden Wings Museum, and the person spearheading the development of the restaurant and entertainment complex on the field (Flight Line Enterprise).

Golden Wings Museum owner, Greg Herrick, opens the doors to his private museum each year at no charge to the general public to promote aviation, and so people can learn something about America's Golden Age of Aviation (1920s-1930s). The museum's modern 45,000 square-foot hangar houses 36 rare vintage aircraft, some of which are one of a kind.

Rarities include NASA's first aircraft, a stainless steel amphibian, the first airplane in which a pope ever flew, six trimotors – including a 1927 Ford Trimotor, America's oldest existing airliner. Charles Lindbergh and Amelia Earhart were among the many notable aviators who have flown some of these unique and rare aircraft.

Parked outside the museum on the ramp were examples of experimental, homebuilt, corporate, military and vintage aircraft. Like Herrick, the owners of these aircraft donated their time to the event. Local vintage and classic car enthusiasts also participated in DAD and held daily parades.

A pancake breakfast and noon lunch were held each day. A kids' activity area included a playground and kiddie pedal-powered airplanes. Both fixed-wing and helicopter rides were also available.

The Saturday evening hangar dance at the Golden Wings Museum, featuring a 1940s swing band, had its largest turnout ever in the 14 years of Discover Aviation Days, with 1100 people participating.

Blaine, Minnesota Mayor Tom Ryan, understands the value of Anoka County-Blaine Airport to the community, and to the Twin Cities metropolitan area. *Dave Weiman Photo*

Situated near the National Sports Center, Anoka County-Blaine Airport/Jane's Field (KANE) continues to make improvements to accommodate a growing demand for general aviation in the northern suburbs. KANE is one of seven (7) airports operated by the Metropolitan Airports Commission (MAC), which include Minneapolis-St. Paul International Airport (MSP), surrounded by six (6) general aviation airports strategically located throughout the Twin Cities metro. All combined, MAC operates one of the largest and best airport systems in the nation!

KANE consists of 1800 acres, and features two runways: 9-27 (5,000 x 100 ft), and 18/36 (4,855 x 100 ft), a precision approach on Rwy 27, and a contract air traffic control tower. KANE supports more than 76,000 takeoffs and landings annually. There are 403-based aircraft. KANE is managed by Joe Harris.

This Howard 500 certainly got a lot of attention at "Discover Aviation Days" when it rolled out of its hangar at Anoka County-Blaine Airport. The Howard 500 is an American executive transport aircraft produced by Howard Aero, Inc during the early 1960s. The aircraft is powered by two Pratt & Whitney R-2800 engines developed for the Douglas DC-6, and has a maximum cruising speed of 350 mph at 21,000 feet. The Howard 500 is pressurized and can maintain sea level cabin pressure up to 16,000 feet MSL. The four-blade propellers are from F4U Corsairs, and the spinners are from DC-7s. The Howard 500 can accommodate up to 14 passengers. It has a maximum range of 2,600 miles. The aircraft is owned by Tony Phillippi.

Dave Weiman Photo

Ford Trimotor C-1077 first flew on September 10, 1927. It is not only America's oldest flying airliner; it is also the oldest flying all-metal and multi-engine airliner in the world. The aircraft has a cruise speed of 95-100 mph, a maximum speed of 114 mph, and a service ceiling of 15,000 ft. MSL. The list of people who have flown this very aircraft reads like a "who's who" of aviation pioneers, including Charles Lindbergh, Amelia Earhart, and polar pilots Balchen and Bennett. The aircraft is part of Greg Herrick's Golden Wings Museum at Anoka County-Blaine Airport.

Dave Weiman Photo

For additional information on Discover Aviation Days, visit **www.DiscoverAviationDays.org.** ❑

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