MIDWEST FLYER MAGAZINE

DECEMBER 2022/JANUARY 2023

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- Crystal (MIC) **37,895**
- St. Paul (STP) **39,196**

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A College Degree Is No Longer Required For Many Top-Paying Jobs In Aviation

by Dave Weiman

Let me preface this editorial by stating that I believe in higher education, but I question when students go into debt to pay for ridiculously high college tuitions, sometimes wasting both time and money on worthless degrees where there are no jobs! Also, not everyone knows what they want to do immediately after graduating from high school and need time to explore different career options.

And what about professions that require college degrees when they are not necessary? Airline pilots used to be in that category, but due to pilot shortages, a degree is no longer required by many airlines. The airlines – and the FAA – are more interested in a pilot's flight-time and ratings, as they should be.

That said, I am pleased that the demand for employees in most fields in aviation is strong, and that there are exciting opportunities to earn while a person learns.

Our industry's first job is to attract people to our industry, and that's where our state aeronautics offices are doing a great job through Aviation Career Education (ACE) camps and programs. Through ACE, young people can explore different careers, participate in internships, and receive the mentorship they need to succeed.

Matthew Armstrong of Delta Air Lines, said this about the ACE program:

"We're proud to be part of this development opportunity. The industry exposure for the students is invaluable and our employees love being mentors to them. It also gives us a longer look at potential future employees. We have several (students) from last year that we are waiting to turn 18, so we can hire them."

Signature Flight Support, the Transportation Security Administration (TSA), American Airlines, and other employers provide similar feedback.

If you are an aviation-related business in Wisconsin and would like to get involved in the ACE program, contact Meredith Alt at the Wisconsin Bureau of Aeronautics: **meredithl.alt@dot.wi.gov**, **608-266-8166**. In Minnesota,

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contact **Darlene Dahlseide** with the Minnesota Office of Aeronautics: **darlene.dahlseide@state.mn.us**, **651-366-4820**. Businesses elsewhere should check with the aeronautics office in their respective states.

Aircraft Technician Apprenticeships

You will read in this issue about an "Aircraft Maintenance Technician Apprenticeship Support Program" now being administered nationwide by Academy College in the Twin Cities. The program offers a unique solution for both businesses and individuals to ensure success of the 30-month aircraft maintenance technician apprenticeship. This new turn-key program supplements an apprentice's on the job training (OJT) with a structured approach that provides support to ensure completion and success, while eliminating the burden on businesses in administrating their own apprenticeship programs.

The goal is for the apprentice to be "test ready" at the end of the program. See article on page 55 of this issue of *Midwest Flyer Magazine* and visit **www.academycollege.edu** for additional information. ❑

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MGN Photo

When May A Private Pilot Receive Compensation For Operating An Aircraft "Incidental To Employment?"

by Greg Reigel

Greg Reigel

I am frequently asked by private pilots whether they can be reimbursed for their use of either an owned or rented aircraft in connection with their employment. In certain limited circumstances, they may. However, to do that, private pilots must be clear on both the privileges and limitations allowed by the Federal Aviation Regulations ("FARs") for their airmen certificates.

Private Pilot Privileges and Limitations

FAR Section 61.113(a) provides that "no person who holds a private pilot certificate may act as pilot in command of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as pilot in command of an aircraft."

The FAA's longstanding policy and perspective views "compensation" very broadly. Compensation is not just the exchange of cash. Rather, it can be receipt of anything of value that is conditioned upon or in exchange for operation of the aircraft. The FAA considers an employee's receipt of salary or wages, building of flight hours paid by the employer, or reimbursement of expenses to be compensation.

The Incidental To Employment/Business Exception

Fortunately, even though a private pilot is receiving salary or wages or other "compensation," this is not as complete a prohibition as it appears. In addition to other exceptions, Section 61.113(b) states "[a] private pilot may, for compensation or hire, act as pilot in command of an aircraft in connection with any business or employment if:

(1) The flight is only incidental to that business or employment; and

(2) The aircraft does not carry passengers or property for compensation or hire."

So, when is a flight "incidental to employment?" According to the FAA, determining whether a flight is merely incidental to employment, rather than a necessary or major part of the private pilot's job, is "a qualitative judgment based upon a number of factors." What does that really mean?

Well, it means the FAA will look at each situation on a case-by-case basis and ask a number of questions to make its determination. The questions may include, but are not limited to, the following:

a. Is the private pilot's operation of an aircraft a condition of employment or advancement; or a part of the pilot's job description? If it is, then the private pilot's flights would likely not be "incidental" to his or her employment.

b. Does the private pilot receive additional compensation, over and above his or her normal income, for operating an aircraft? If so, the private pilot's operation of the aircraft is likely not merely "incidental" to his or her work.

c. What percentage of the private pilot's work time is spent operating an aircraft? The greater the percentage, the less likely the flight operations are "incidental" to his or her employment.

Similarly, the FAA will evaluate whether the private pilot's flights are a foreseeable and regular/normal part of the pilot's employer's business. If they are, then those flights would not be "incidental to business" and would not be permitted under Section 61.113(b). And, of course, qualifying for this exception also assumes that the flights are not carrying any passengers or property.

Conclusion

Although a private pilot is generally precluded from being paid for flying, a private pilot may still receive compensation (as broadly defined by the FAA) if the flights are incidental to the pilot's employment or business. However, private pilots should ensure that they meet all of the requirements of the exception permitting compensation. If the private pilot fails to satisfy those requirements, his or her certificate could be at risk.

EDITOR'S NOTE: Greg Reigel is an attorney with Shackelford, Melton, McKinley & Norton, LLP, and represents clients throughout the country in aviation and business law matters. He has more than two decades of experience working with airlines, charter companies, fixed base operators, airports, repair stations, pilots, mechanics, and other aviation businesses in aircraft purchase and sales transactions, regulatory compliance including hazmat and drug and alcohol testing, contract negotiations, airport grant assurances, airport leasing, aircraft-related agreements, wet leasing, dry leasing, and FAA certificate and civil penalty actions. For assistance, call **214-780-1482**, email: **greigel@shackelford.law**, or Twitter @ReigelLaw (**www.shackelford.law**).

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The Garmin Aera 660

by Michael J. "Mick" Kaufman

Michael Kaufman

In a previous series of articles entitled "*The Pilot's New Panel,*" I covered my recent budget update to the panel on my Bonanza. One of my comments was on the Garmin Aera 660 that was part of the install and that it was the best piece of avionics for the money I have ever purchased with an off-the-shelf price in the $800.00 range. This article describes some of the features of the Garmin Aera 660 and why you should have one in your airplane.

We have all figured out by now how important weather information in the cockpit is to the pilot. With the first introduction of the "Anywhere Map" a decade or more ago, it became a necessity for pilots, and pilots would not leave the vicinity of an airport without it.

Be aware that cell phone coverage becomes almost useless when flying more than a few thousand feet above the ground. There may be an occasion in some areas where you may be able to use a cell phone at a higher attitude. This is because the antennas on the cell sites are optimized for a specific area and tilted downward, as they are not meant for air traffic. The Anywhere Map I mentioned as the first usable inflight weather system, required being connected to a satellite phone with a subscription. So, there was a cost every time you checked weather in flight, but it was worth it on long cross-country flights. I still have my satellite phone and activated it recently for a short period of time for a flight into the Canadian wilderness as part of the annual fishing trip and pilgrimage to *"Miminiska Lodge"* (CPS5), hosted by *Midwest Flyer Magazine* in which we caught lots of fish!

A breakthrough in inflight weather came with the introduction of the Garmin 396 using a subscription to Sirius XM for weather, and this was fantastic! I still use that subscription service with the Garmin Aera 660. We are now several years into Automatic Dependent Surveillance-Broadcast (ADS-B), and with the government's push to get aircraft owners to spend the money on devices, so the FAA can spy on us.

The FAA first offered free weather in the cockpit as part of ADS-B. Meanwhile, some ingenious technician designed ADS-B weather in a box that could be built on a $35.00 minicomputer called the "Raspberry Pi." With the invent of inexpensive devices to provide free ADS-B weather, the incentive for pilots to spend thousands of dollars for ADS-B diminished, so the FAA offered cash rebates to aircraft owners who equipped their airplanes with ADS-B during a specified period of time. As of today, only 44% of all U.S. aircraft are ADS-B out equipped, and ground-based ADS-B weather does not compare to the superior satellite-based Sirius XM weather.

At the time of my panel upgrade, I needed to find a way to get weather in the cockpit and displayed on my iPad using ForeFlight. There were several devices on the market at the time, so I elected to try a device sold by Sporty's Pilot Shop.

It worked for a while, then quit working. I returned it to Sporty's and got a replacement unit, which worked for a few days before it also died.

A new product surfaced from Garmin called the "GDL-52." It was a bit pricier than the previous boxes, but I was able to work with Sporty's (a great company, BTW) to get one. The GDL-52 arrived and worked flawlessly with ForeFlight to provide Sirius XM satellite weather, ADS-B traffic in, AHRS (attitude heading reference system), and ADS-B weather, all in one box. Garmin makes several flavors of the GDL-52, and I chose the portable version, which I now regret not removing from my Bonanza and using it in the Cessna 182 Skylane we flew to Canada, because we encountered some weather. Garmin also has a non-portable, certified version designated the "GDL-52R." I had originally made plans to have my old Garmin 396 reinstalled, as my budgeted avionics install was already in progress. In a conversation with my good friend and BPT (Bonanza/Baron Pilot Training) colleague, Randy Bailey, he suggested adding a Garmin Aera 660 to the panel to replace the Garmin 396, and as luck would have it, there was an Air Gizmos box the same size as the box holding the 396 in the panel. My installer was a little reluctant to make the change but agreed to do so. The Garmin 396 was not retired, but rather installed in my seaplane.

To describe the Aera 660, it is awesome! The display is bright and crisp and puts the iPad to shame for readability in bright sunlight. After flying with the 660 for over two years, it does not overheat and shut down as the display does on my iPad, which has happened numerous times when I needed it the most.

The Aera 660 is hardwired to the Garmin GDL-52 and my Garmin 480 and allows the transfer of data between these boxes. I can send a flight plan data back and forth except for the direct-to command going to the Garmin 480 from the 660, which is blocked by software, probably for some liability issue, which is noted in the 660 manual. Using a Bluetooth connection with ForeFlight, I can also exchange flight plan data with the 660. My installer installed a toggle switch for me to select between which devices the data is exchanged.

For example, data is sent from the Garmin 480 to the 660, the switch is toggled, and the data is then sent to ForeFlight on the iPad, or the process is reversed. This provides some of the same functions as Garmin's Flight Stream device with more features and less cost. The Aera 660 resembles a Garmin 650 without the com transmitter, and by using some of Garmin's Nav/Coms, the 660 can tune the transceiver from its database. The database on the 660 is updated from a Garmin subscription every 28 days and the price is very reasonable. The database includes VFR/IFR enroute charts, as well as the IFR approach charts and a base map. The update is done whenever the unit is connected to WiFi. There's no need for a computer or cable. I snap the unit out of its Air Gizmos adapter, take it home and turn it on and select "update."

The touch screen face of the Aera 660 is very similar to that of the Garmin 650 with touch screen icons. Beginning in the upper left corner of the display is the base map displaying cities, navaids, airports, and other items that are user selectable.

To the right of the base map is a charts icon allowing the user to select VFR sectional charts, high and low altitude enroute charts and others. Next is a 3-D display that gives an Attitude and Heading Reference System (AHRS) display with three (3) selectable configurations using the six-pack instruments, altitude, speed tapes and a configurable Horizontal Situation Indicator (HSI). There is no AHRS in the 660 as it receives the AHRS data from the Garmin GDL-52, as well as GPS position data. The 660 does have its own GPS receiver, but I chose the one on the GDL-52 as it has an external antenna connected.

The Aera 760 with the bigger display has its own AHRS internally. The following icon to the right is the nearest icon allowing the pilot to find the nearest airports, flight service stations, navaids, ATC center frequencies and others. The second row of icons features waypoints and will display data received from a Garmin navigator – in my airplane, it is the Garmin 480 or ForeFlight on the iPad. If an approach is

loaded on the connected 480 navigator, the approach chart for that approach is automatically loaded and displayed on the Aera 660. The next two icons show saved and active flight plans with the ability to save 50 flight plans for future use. The traffic icon will display ADS-B traffic and allows the user to select different ranges, as well as information about displayed traffic by touching the icon. A voice will provide traffic calls to alert the pilot of converging aircraft and terrain alerts, as well as a 500-foot altitude call out on an approach or while landing. Other icons on the main page will show terrain and weather.

On one of the setup pages, the pilot user may select the source for providing weather data with the options being Sirius XM, ADS-B or internet weather. The different weather products available depend on the source providing the weather. Weather features contain radar products, METARs, TAFs, winds aloft, cloud tops and much more. The option set up in my airplane allows me to select different information on any screen I choose. For example, traffic on my Garmin 480, weather radar on my Aera 660, and an approach chart with moving map on my iPad using ForeFlight. The options and information available using the Aera 660 seem endless and using it with the Garmin GDL-52 adds even more, such as Sirius XM music and entertainment.

Please remember as a pilot, we need to fly the airplane and too much information can cause problems. Pick your favorite screen and don't change anything once on the final approach segment. All eyes on the Primary Flight Display (PFD) when on that final approach segment, and don't saturate that PFD screen if you have one with unnecessary information. An HSI and a six-pack of gauges is all you need, but a flight director is also a great device to have. Memorize only the information critical to the approach like the Missed Approach Point (MAP) and the initial part of the missed approach segment. On a non-precision approach, the Minimum Descent Altitude (MDA) is also an important memory item. Enjoy the Garmin Aera 660, as I think it is the best avionics dollar you can spend!

EDITOR'S NOTE: Michael J. "Mick" Kaufman is a Certified Instrument Flight Instructor (CFII) and the program manager of flight operations with the "Bonanza/Baron Pilot Training" organization. He conducts pilot clinics and specialized instruction throughout the U.S. in many makes and models of aircraft, which are equipped with a variety of avionics. Mick is based in Richland Center (93C) and Eagle River, Wisconsin (KEGV). He was named "FAA's Safety Team Representative of the Year" for Wisconsin in 2008. Readers are encouraged to email questions to **captmick@me.com**, or call **817-988-0174**.

DISCLAIMER: The information contained in this column is the expressed opinion of the author only, and readers are advised to seek the advice of their personal flight instructor and others, and refer to the Federal Aviation Regulations, FAA Aeronautical Information Manual, and instructional materials before attempting any procedures discussed herein. ❑

F-101B Voodoo On Loan To Fargo Air Museum

FARGO, N.D. – The Fargo Air Museum has obtained an F-101B Voodoo jet fighter from the 119th Wing of the North Dakota Air National Guard. The aircraft, which is on loan, was the "celebrity" plane for the museum's 14th Annual Celebrity Dinner & Auction, September 24.

The aircraft participated in the 1970 and 1972 U.S. Air Force Weapons Competitions, also known as "William Tell," where it helped the "Happy Hooligans" place first at both competitions. Since its retirement in 1977, the aircraft has been on display at the base and hasn't been accessible to the general public since 1997. Displaying the aircraft at the museum is a rare opportunity for the Fargo-Moorhead community to get up close and personal with a Cold War-era jet fighter that has local ties not only to Fargo, but North Dakota as a whole.

The Fargo Air Museum was founded with the nonprofit mission of promoting aviation through education, preservation, and restoration (**www.fargoairmuseum.org**). ❑

How To Become A Better Pilot

by Richard Morey

Richard Morey

In theory, we all want to be better, safer pilots. In practice, most of us are complacent with our skill level. We would like to be better but do not have a plan as to how to accomplish this. Most of us do not fly enough to maintain proficiency, let alone improve our skills. Three takeoffs and landings every 90 days will not do it. Neither will six (6) approaches in six (6) months. Being current is not the same as being competent and proficient.

The first step to becoming a better pilot is accepting that flying is a perishable skill. You quickly lose your edge with disuse. The second is committing yourself to improvement. How do we balance work, family, and our checking account, while continuing to improve our flying skills? The FAA, EAA, AOPA, NAFI and numerous other aviation organizations realize the truth to this, and the danger. I suggest that pilots take advantage of the multitude of free classes, seminars, and activities these organizations offer that are designed to help pilots improve their skill sets.

FAAsafety.gov

If you are not already signed up on **FAAsafety.gov**, you should be. This website lists FREE online classes, webinars, and safety seminars. One very useful feature is "preferences." You can select what is of interest to you and receive email notifications of webinars and safety seminars. Registration is simple and straightforward. Do yourself a favor and spend some time on the site exploring options. The FAA now allows three (3) credits of classes to take the place of the oral portion of a flight review. Check with your flight instructor regarding how he feels about the program. I am suggesting all my flight review applicants take at least three (3) credits. Most have found it so useful, they take more!

Give Yourself A Mission!

Your local EAA Chapter offers a great opportunity to interact with other pilots. Often chapters will have fly-out activities. Fly-out breakfasts are more fun when you are sharing the ride and flying out with a group. Having a mission, rather than simply flying patterns for currency, gives us an enjoyable reason to plan a short cross-country flight, get exposed to a new airport, and share comradery.

VMC & IMC Clubs

Don't like pancakes? EAA chapters also sponsor both VMC (Visual Meteorological Conditions) and IMC (Instrument Meteorological Conditions) clubs. Depending on your level of training, either or both could be valuable to your development as a pilot. These clubs are scenario-based and promote discussion and decision-making using real-world examples. Volunteer flight and ground instructors present the scenarios and moderate the discussions that follow. The interactive format allows pilots to hear the decision-making process among their peers, as well as examine their own reaction to the scenario. Because the actual outcome isn't a part of the scenario, it allows for the examination of different decisions the pilot could have made along the way, based upon the information available. EAA has spent a great deal of time and resources to produce these programs. I find them very useful.

Study Groups

There are study groups available, or pilots can survey their local flying community to see if there's interest in forming one. Some flight schools help coordinate study groups for students working on similar ratings, such as a prospective group of certified flight instructors (CFIs). EAA chapters may have ground school/mentor options for Ray Scholars and other new pilot prospects. The Wisconsin Chapter of the Ninety Nines offers an online study program twice monthly that is open to all prospective women pilots. Whether it's through a chapter of an organization, a flight school, or just a few, like-minded pilots getting together, studying with a group can help hold you accountable and promote constructive discussion. It also helps with retaining information. Think about it…how many times have you been studying alone and been distracted, forgetting what you just read? Having to discuss and explain something helps you discover whether you really understand it. Working with others also allows you to learn new tips and share experiences. Bonus…. more hangar flying with new and old pilot friends.

Set Goals

Having a goal in mind is a great motivator. The following are a couple of good options.

WINGS Pilot Proficiency Awards Program

The FAA's WINGS program is an excellent way to maintain and build skills. According to Advisory Circular 61-91H, "all pilots holding a recreational or higher pilot certificate may participate…in this 20-phase proficiency program." Badges are awarded upon the completion of the first 10 phases, with certificates for the second 10. In airplanes, three (3) hours of flight training must be accomplished to include one (1) hour of basic aircraft

maneuvers directed towards mastery of the airplane, one (1) hour of landings to include short field, soft field, and crosswind, and one (1) hour of instrument training in either an aircraft or simulator. The applicant must attend one (1) aviation safety program as well. Completion of a WINGS phase in an aircraft may substitute for a flight review. The WINGS program is ideal for those pilots who do best if there is a specific goal to work towards.

Fly Wisconsin Passport Program

Perhaps your mission is to visit as many airports in Wisconsin as possible and win prizes? The "Fly Wisconsin! Passport Program," sponsored by the Wisconsin Airport Management Association (WAMA) and the Wisconsin DOT Bureau of Aeronautics, is open to all pilots and their passengers. Each participating airport has a stamp. Stamp your passport in the appropriate spot and collect as many as you wish. If you are looking for a reason to fly, this program gives you that, and is a great way to see Wisconsin and practice cross-country skills. Register online at **https://2.selectsurvey.net/wisdot/TakeSurvey.aspx?SurveyID=FlyWI#**. For additional information, go to **http://wisconsindot.gov/Pages/travel/air/pilot-info/flywi-howto.aspx, email flywi@dot.wi.gov** or call **608-266-3351**. Not in Wisconsin? Check to see if your state has a similar program. I know Minnesota does as well.

Challenge Yourself In Your Flying

We all would rather do what we are good at and familiar with. This is natural but does not lend itself to improvement as a pilot. Instead of doing the same old thing, consider making your next flight a bit more challenging. A simple way to do this is to fly practice power-off landings. Reduce power to idle, opposite the point of intended touchdown and see how it goes. It is not unusual to have to add power for being too low or go around for being too high. Keep working at it until you can make the runway regularly without adding power. This is a great way to get a feel for just how far you can glide your aircraft. Once you feel comfortable with power-off approaches, find something else that you want to work on. If you feel uncomfortable doing so solo, take some instruction. Believe me, your flight instructor would much rather fly with you regularly, than once every two years.

Read Your Manuals

Pilots should be familiar with all the aircraft they fly, and all the equipment in those aircraft. If you have not recently reviewed the pilot's operating handbook for the aircraft you fly, you should. Focus on normal and emergency procedures. If you fly a GPS-equipped aircraft, spend time going over the user's guide. The user's guide, manuals, and downloadable simulators are generally available at the manufacturer's website. I can honestly say that most pilots I have flown with could use additional training in GPS operations. Doing so expands what is available to you as far as tools, so why not take advantage of it?

Read Aviation Magazines

You probably subscribe to several aviation magazines. If you are reading this, you definitely subscribe to *Midwest Flyer Magazine*. The staff of these magazines not only want to report on what is happening in aviation, but want you to be safe, proficient pilots. Read the articles. You may not agree with all you read, but I guarantee you will find some new ideas to think about.

In Closing

Being a proficient pilot takes some work, but this work need not be a chore. Understand that piloting skills are perishable. Realize that staying legally current is not the same as being proficient. Taking advantage of the online seminars and in-person safety meetings helps keep you proficient. Finding a reason to fly, both on your own and with an instructor, will go a long way to maintaining your level of proficiency. Have a goal with your flying, be it pancakes, passports or WINGS. Read handbooks and manuals. Join a study group. Read aviation publications, especially this one, which besides the *"Pilot Proficiency"* column I write, there's *"Instrument Flight"* by Mick Kaufman, and articles presented by AOPA and others. Take some dual instruction. Find a way to have fun with your flying, while continuing to learn and maintain proficiency. All of these steps will lead to enjoying your flying more and being a safer pilot as a result, hopefully for many years to come!

EDITOR'S NOTE: Richard Morey was born into an aviation family. He is the third generation to operate the family FBO and flight school, Morey Airplane Company at Middleton Municipal Airport – Morey Field (C29). Among Richard's diverse roles include charter pilot, flight instructor, and airport manager. He holds an ATP, CFII, MEII, and is an Airframe and Powerplant Mechanic (A&P) with Inspection Authorization (IA). Richard has been an active flight instructor since 1991 with over 15,000 hours instructing, and almost 19,000 hours total time. Of his many roles, flight instruction is by far his favorite! Comments are welcomed via email at **Rich@moreyairport.com** or by telephone at **608-836-1711**. (**www.MoreyAirport.com**).

Flanking the Derecho

by Patrick J. McDonald, ATP CFII

The word, *derecho*, is fairly new to our pilot weather vocabulary. The word, Spanish in origin, literally means "straight ahead." The word attempts to convey a notion that as a derecho builds in magnitude, the winds surge forward in a straight line – rather than through the spinning phenomenon of a tornado.

My first encounter with a derecho was on the morning of August 10, 2020, when the now-named *Heartland Derecho* wreaked havoc in the Midwest.

I'm a mental health practitioner and I was working in my office with a client that morning. I heard no tornado warnings, but I did hear the rush of heavy winds and the crashing of tree branches. I turned toward the window and tried to catch a first glimpse at what was going on. The immediate impression was that of a bright neon-like green sky, emerging from the west. Then I saw a mature tree go down, taking out a neighbor's fence, followed by a storm of asphalt shingles and splintered pieces of roof support peppering my parking lot. I somehow knew that the broken building products came from the roof of a large sports arena several blocks away.

The author's Piper Arrow.

The wind picked up intensity over the next 15 minutes as the rain thickened. It grew darker, but the sky still remained a haunting green color. Both my client and I expressed our fears, noting that we had never experienced anything like this – *ever!*

As the rest of the day unfolded, I participated in the widespread clean-up efforts in our community. The cleanup crews were shakened by stories of damage from as far away as Illinois. Every TV report noted that the culprit was not a tornado, but a *derecho* with straight-line winds howling up to 140 mph.

I remember remarking to my client that I was happy to be ground-bound, rather than fighting something as destructive as this event in a small plane. He laughed and agreed. I would never have deliberately bargained for an encounter with this much destructive energy, but my opportunity to bump up against a derecho came on the morning of July 5, 2022.

Out of Billings, Montana

By 10:00 a.m., my brother and I are at Billings, Montana's Logan Airport, waiting for some low ceilings in Sheridan and Rapid City to lift, opening up an undisturbed flight home to Des Moines. We had just spent a carefree week whitewater rafting in the magnificent Salmon River country of Idaho. Our flight home is programmed to become the last chapter of a grand summer adventure. The only hint of a potential weather problem is clearly visible on a Sirius XM weather presentation as we sit in my Piper Arrow, waiting for an IFR clearance to Rapid City.

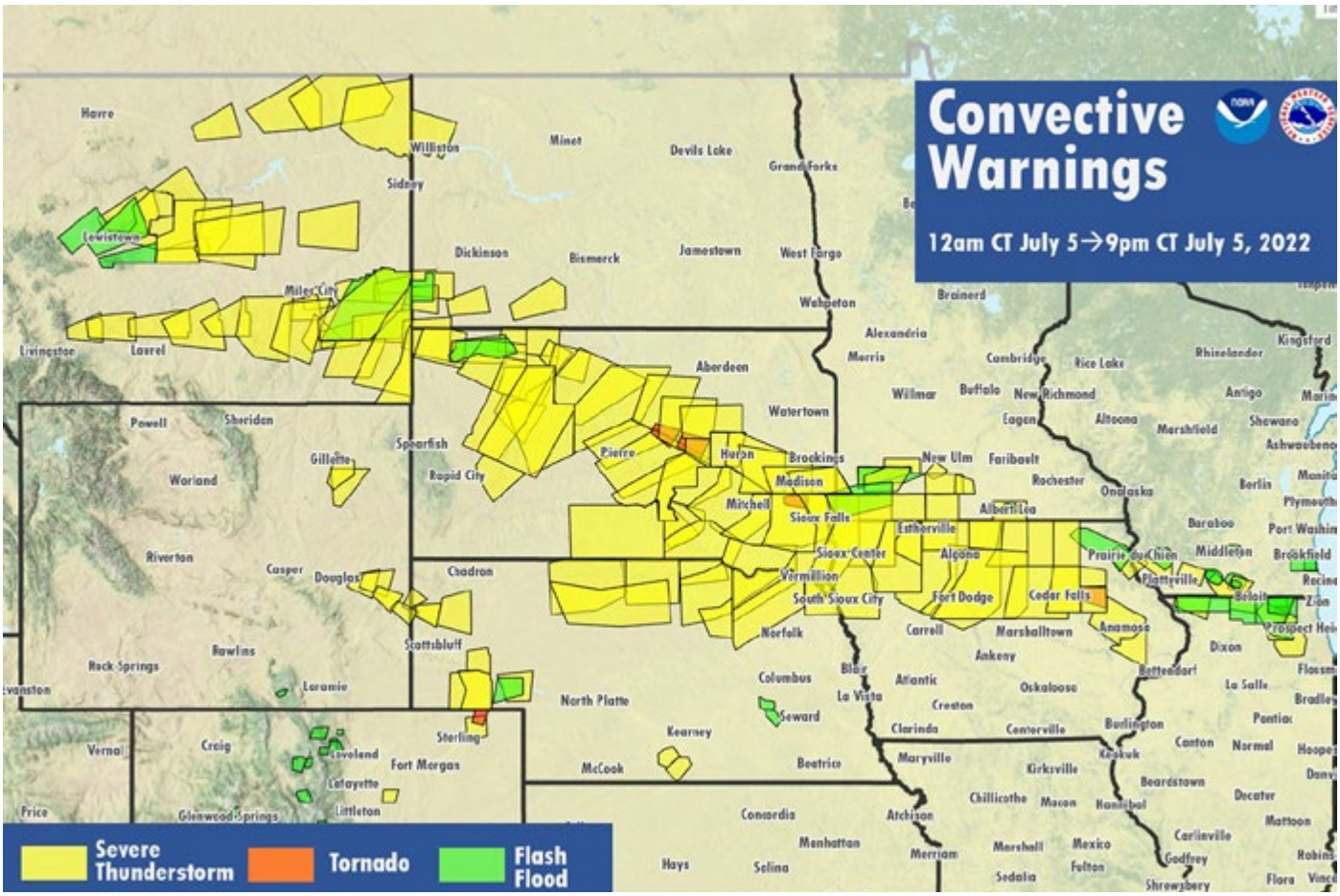
The full-color weather pictorial shows two clusters of morning thunderstorms 100 miles away, approaching Miles City, Montana. The weather is moving in a northeasterly direction – away from our route of flight. *"Nothing to worry about,"* I reassure my brother.

We are soon in bright sunshine at 10,000 feet. Clouds are now obscuring the Black Hills in multiple layers below us, down to 800 feet above the ground into our Rapid City fuel stop. I had filed for Chadron, Nebraska, as an alternate – another 75 miles to the southeast. On my weather pictorial and from my observation, all of Nebraska was clear with good visibility. About the same time that Ellsworth Approach Control advised us to expect a GPS 32 approach to Rapid City, our situation changes dramatically.

The same early-morning thunderstorm area that prompted us to fly southeastward to Rapid City has now tripled in size. It blatantly presents itself as one massive patch of red, laced throughout with lightning bolt images and severe storm boxes – stretching from eastern Montana to the edge of the Black Hills to well past Pierre, S.D.

I also see a haunting green hue to the wall of water that is now clearly visible and converging on my left flank at a frightening closing speed. It is the same menacing green color of the derecho that assaulted my office two years ago.

I know that I can get into Rapid City with some difficulty, but I'll likely get stuck there in violent weather conditions. I request to proceed to my Chadron alternate and receive an immediate clearance from air traffic control.



Chadron AWOS reports hot and clear with winds now at 050 degrees at 37 knots and gusts to 43. Runway 3 gives me some edge on the crosswind component, but my final approach is rocky, punishing us with constantly changing wind sheer, but we land safely.

As we shut down at the fuel pump, the fixed base operator asks us how the ride was. *"Miserable – but I landed safely,"* I answered.

"Gets hot and windy around here during the summertime," he said as he assisted us in our refueling chore. *"Lotsa deviations today. I hear we got real bad weather in the Black Hills,"* he commented. Before I could answer, he continued, *"You better not hang around here too long,"* as he pointed to another thunderstorm cluster to our south, now starting to crowd our right flank.

Out of Chadron, Nebraska

The climb-out from Chadron is hot and rocky but good VFR. We are now starting to get squeezed between two systems. The massive green wall on our left flank has now passed Rapid City and is rushing along Interstate 90 toward Mitchell.

The new Nebraska system crowding our right flank defines one side of a corridor that is growing tighter by the mile. My XM weather depiction shows moderate rain showers for the next 20 miles, then clear weather to the southeast toward Lincoln. I calculate that I should escape the narrowing cumulus corridor in 40 more miles. Progress is incredibly slow at 89 knots.

I listen to Denver Center Flight-Following and hear others complain about the conditions. One pilot report, in a thin voice, that he's encountering severe turbulence at O'Neill, Nebraska (to our south). *"Do you need help? Is anyone hurt?"* queries the controller. *"No one's hurt,"* says the pilot. *"We seem to be out of it, but we got some real headaches."*

About that time, as we turn the corner to stay out of heavy rain, it is our turn to encounter severe turbulence. We are already cinched in tight with lap and shoulder harnesses, so no head injuries occur. Our luggage bags lift and reposition themselves several times – fortunately not on top of us. Neither of us say anything. For three long minutes, we struggle to maintain a stable flight attitude, but are essentially helpless to do much except ride out the bumps and hope nothing breaks.

Then in another pleasant surprise, the air unexpectedly

calms and cools by 15 degrees. Our groundspeed increases to 170 knots. The massive increase in groundspeed is a real bonus for us. We are now riding in a fast-moving column of air that is part of the derecho's elusive alchemy, while benignly getting pushed away from the destructive interior weather system's wreaking havoc through its core.

Our ride feels secure for the moment, and it now looks like we can flank this green monster all the way to our home base. By monitoring ground stations, I monitor a broad trail of large hail, 80-knot winds, and torrential rains across South Dakota, into Nebraska, then Iowa. The green wall of destruction is moving steadily toward our home base, but all calculations indicate that we should arrive there first.

Out of Energy

I confirm my calculations as we land in seven knot winds and hurriedly park our aircraft, while keeping our eyes on the western horizon. The ugly green color is deepening. A dense wall of water is no longer flanking us. It is pursuing us from straight out of a westerly heading. Happy to be ground-bound, we debrief over a beer in a local watering hole as we listen to the weather roll over the top of us.

Heavy rains and wind last for a solid hour. Some trees go down. My hangar sustains no wind damage. We drink another toast to being ground-bound and seemingly safe for the moment.

It takes a number of hours, even days, to construct some credible image of what happened as we flanked this massive phenomenon. I learned through a little research that the ugly green color comes from the refraction of sunlight through a high volume of hail. The National Weather Service released this interim Tweet on July 6th:

"After discussing with SPC, today's still ongoing thunderstorm complex will be considered a derecho. The peak winds so far have been 96 mph in Huron, S.D. and 99 mph near Howard, S.D., but there have been many high wind reports."

One friend, who lives 100 miles to the north of Des Moines, remarked: *"The storm blew the roof off my new home, but no one got hurt."* Another friend observed a week later, *"Hey, I was on a motorcycle trip to the Black Hills. We got hung up there in a terrible storm the day after the Fourth of July. We headed out the next day down Interstate 90 and every directional sign along the interstate highway was flattened from Rapid City to Mitchell. Devastation."*

I'm still pondering the same question that stimulated this reflection… Would I rather be ground-bound and seemingly safe or view a derecho from a small plane?

I'll take the small plane, with a few qualifiers. I would never set out to challenge a storm of this magnitude. I was, by fate, invited to view a powerful mix of the forces of nature, and I'll never forget the experience. I also learned that violent turbulence awaits an innocent pilot 40 miles from the edge of this green monster. I knew I could take a more dramatic turn and escape the destruction. Now, in retrospect, I can only say that once in a lifetime is enough.


Patrick J. McDonald

EDITOR'S NOTE: Patrick J. McDonald has been a member of the aviation community for 53 years and in that period, he has logged over 8,000 hours. He has helped many students to obtain various flight certificates and has done it all for pure enjoyment. McDonald is formally a licensed mental health practitioner and maintains an active practice in Des Moines, in partnership with his wife of 47 years. ❑

Demon Ice

by Dean Zakos

I always wanted to fly.

I liked the satisfaction of rising up and meeting challenges. I thrived on being presented with, or happily sought out, opportunities to test myself. I wanted to see how I performed – in school, in sports, or against other men in airplanes or helicopters. Did I measure up? I usually satisfied myself that I did.

Well, I am being challenged tonight.

I am flying alone in a Beechcraft B80 Queen Air. The airplane, a twin-engine corporate and light transport aircraft, is owned by Lockheed Aircraft Corporation, my employer. It requires only a single pilot and can be configured for carrying up to 11 passengers or cargo. Max speed is 208 kts and normal cruise is about 180 - 190 kts. Max payload is 3,000 lbs., and GTOW is a little over 8,000 lbs.

The B80 is powered by two Lycoming IGSO-540-A1D piston engines rated at 380 hp each. The wingspan is 50 feet, 3 inches, and its length is 35 feet, 6 inches. I found it to have good flight characteristics and a pleasure to fly.

In 1972, Lockheed was bidding on the U.S. Army's Cobra helicopter follow-on program with the AH-56A Cheyenne Advanced Attack compound helicopter. The Cheyenne had a four-blade main rotor, a four-blade tail rotor, an aft mounted three-blade pusher propeller, and low mounted aerodynamic wings, with hard points for launching anti-tank missiles and rockets. Powered by a single 4,275 shp GE-T64-716 turbo shaft engine, it flew at over 200 kts in some operational tests. Designed with a two-seat tandem cockpit, a gunner sat in the forward seat, which rotated 100 degrees to either side of centerline. This flexibility enabled the gunner to locate a target and remain locked-on to it regardless of the pilot's flight maneuvers. The pilot occupied an elevated rear seat that offered excellent visibility to the front and sides. The prototype helicopter handled well and was fun to fly.

Lockheed's program was operating from a test area called the Castle Dome Development site at the Army's huge Yuma Proving Grounds in Arizona. We had a good facility about 40 miles west of Yuma, with a single, non-lighted runway.

A number of Lockheed employees decided to move temporarily to Yuma for the duration of the program. Others stayed in motels in Yuma during the week, opting to be shuttled from Burbank on Monday mornings and back to Burbank on Friday afternoons. These charter flights operated out of Laguna Army Airfield (KLGF), not far from Castle Dome. My wife and I decided to keep our family in the Los Angeles area, and so I became one of the weekly commuters.

Because of my status as a test pilot on the project, I was offered an occasional respite from being a passenger on the weekly commuter flights. Lockheed had its own "personal transport" available for the project, the Beechcraft I am flying. Often, to maintain schedules, ferry personnel, or quickly confirm test results, I was asked, as needed, to fly parts, passengers, or test data to and from Yuma. I would

usually depart Laguna on short notice and fly direct to Van Nuys (KVNY), which was located close to Lockheed's facility. Earlier today, I was asked to make a "data run," transporting test data containing many lines of specialized code. A Lockheed tech employee would meet me at the Van Nuys airport and then drive the data to Lockheed's offices where people and computers "crunched the numbers" and interpreted the raw data. Reports generated from the data would then be loaded back on the Queen Air for the return flight to Yuma at the end of the same day and be available for review the next morning when the morning crew in Yuma came in for work.

As I rotated the Queen Air and started my climb out of Yuma this morning, I took a moment to admire the painted colors of the desert slipping by below me. The vast ranges of sand and sagebrush, with layered purple mesas rising in the distance were stark, but beautiful. The Queen Air entered the overcast at just about 1,000 feet above the ground. The balance of the trip from Yuma to Van Nuys was solid IFR, with no precipitation, but with some snow showers possible in later forecasts for the return flight. Upon landing in Van Nuys, I was informed the data would take several hours longer than the normal three-hour turnaround time to process, so the results would not be available for me to transport back to Yuma until that evening. I was actually pleased with the news, and I quickly grabbed a company car and headed home to spend a little time with my wife and three girls.

After dinner that night, with goodnight hugs and kisses all around, I headed back to the airport, as I was advised the data had been processed and the stacks of completed reports were being loaded onto the plane. That scenario was pretty much how most data runs went. The return flight to Yuma ordinarily averaged about an hour and a half. This night, in early December 1972, was going to prove to be different.

Winter weather conditions were moving into the area along my planned route. Snow was no longer forecast for my return to Yuma, but lower freezing levels and turbulence were. The Queen Air was equipped for winter operations, with wing de-icing boots, fuselage-mounted lights to confirm wing ice status, heated windshield de-ice, and prop de-ice.

My IFR flight plan, with a 2100 (local) departure, was to climb to and maintain 6,000, Van Nuys direct Ontario. Then, direct Julian, direct Coyote Wells, Victor 137 to El Centro, then direct Yuma/Laguna. Flying the leg to Ontario, I encountered no significant weather, but there was some occasional moderate turbulence. I turned all de-ice equipment and pitot heat on as soon as I was in the clouds, except prop de-ice. On the leg to Julian, I experienced more turbulence and windshield ice was starting to form in corners and on protruding surfaces. I called LA Center and reported the ice, requesting another route. Center suggested a turn to 325 degrees, back toward Ontario, adding that two airliners had just departed Ontario and were not picking up ice. I made the turn and remained at 6,000 feet.

I was not concerned – yet.

My thoughts momentarily traveled back to earlier days and how I found myself sitting in the left seat of the Queen Air. Knowing of my interest in aviation as a boy, my father arranged for my first airplane ride. He had a friend who was the chief pilot for a large manufacturing company. The company owned a de Havilland DH.104 Dove, a twin-engine, polished aluminum beauty, which was used to transport businessmen and customers. From that flight, I knew I wanted a career in aviation.

I attended the University of Wisconsin and graduated in 1956. I met my wife there. While in the business school, I was also in an ROTC program. Upon graduation, I joined the Navy (a childhood dream of mine). At Pensacola, I was introduced to military flying, first in a Beech T-34 Mentor, then a North American T-28C Trojan. After winning my gold wings, I was assigned to a squadron flying Douglas A-4 Skyhawk attack jets. I flew two tours in Skyhawks from carrier decks (the USS Ranger CVA-61 and the USS Enterprise CVA-65) off the coast of North Vietnam until, on one mission, in a rapid descent while suffering with a head cold, one of my eardrums burst. I could no longer fly jets, so I asked for helicopters. I piloted a Sikorsky SH-3A/D Sea King on an additional deployment in Vietnam.

After my active-duty service, I applied to the airlines and to some defense contractors. United Airlines and Lockheed offered me jobs. Both letters arrived in my mailbox the same day. My background was more a natural fit with Lockheed, as I was a "rotor head," had acquired experience in the Navy as a "systems guy," and had earned an MBA degree during one of my rotations to shore duty.

I did encounter some ice in jets in the Navy, be we often flew so high and fast that it was never really an issue. At 6,000 feet in the Queen Air, doing about 180 kts, picking up ice was a very real possibility. Ice continued to accrete on the windshield, even with the windshield de-ice on. Fuselage lights showed no wing ice yet. Solid IMC. Prop de-ice is now on. I was relatively confident of the Queen Air's de-ice capabilities should things get worse.

I am hand-flying - no autopilot - and doing careful crosschecks. My eyes move across the panel, from pitch to bank to power instruments. From attitude to airspeed, then vertical speed, then attitude again. Next, heading, compass, and turn and bank – all okay. Manifold pressures and prop RPMs steady. Suddenly, severe turbulence angrily invades my solitude and destroys my orderly instrument scan. I had taken the precaution of making sure my seatbelt was secure, but the convulsive forces on the control surfaces catch me off guard. Coming rapidly and unpredictably – left, right, up, down – I could not guess from which direction the next impact would hit me or anticipate how I could counter it. The Queen Air was being thrown violently around the sky. The instrument dials blur and are difficult to read. The aircraft's angle of attack increases and decreases wildly in just seconds. The yoke is trying to bang against its stops.

Forget about holding altitude or heading. I try to

concentrate on keeping the wings level. I have both hands tightly gripping the yoke as it forcibly bucks and gyrates in front of my chest. Instead of me pushing on the rudder pedals, the pedals punch erratically against my feet. I am fighting for control. I do not know if I am in command, or the turbulence is. I think about reducing airspeed to Va so the airplane will somehow continue to hold together in this fearsome pounding.

I glance hastily out my side window. Through the dark gray mist streaming by the fuselage lights, I see it. Ice. Ice everywhere! I was distracted by the turbulence. The rocking and rolling, so hellacious a moment ago, has abated somewhat. The airplane is semi-controllable, giving me a chance to concentrate. I check to make sure all de-ice equipment is on. It is. I cycle the wing de-ice boots. Nothing happens. I do not touch the throttles. The airspeed indicator confirms that the weight and aerodynamic drag of the accumulated ice is already slowing me down. The windshield is frozen over. I struggle to believe what I am seeing. The de-ice systems are failing me.

I sometimes wondered about a moment like this in a lifetime of flying. Will I think of my family? I could not bear to lose them. Will I panic or will I remain in control of my emotions? I have managed fears in the past. Sitting here now, I can feel my body's natural response. Adrenaline is coursing through me; blood pressure up; face flushed; heart racing. Short, quick breaths. But I can still think clearly. I make up my mind. Taking some intentionally slow, deep breaths, I banish the desperate and unwelcomed thoughts as quickly as they come. I will fly the airplane. I can get out of this.

Suddenly, a sharp, metallic banging on either side of the B80's nose in front of me. What is that? It sounds a little like the sound a seatbelt buckle makes if inadvertently locked outside the door of a small plane, the buckle free to strike crazily against the door in the slipstream. After a moment, I know. It is the prop de-ice slinging chunks of ice off the blades and against the thin aluminum skin of the airplane. The staccato sound is not rhythmic; it is loud, seemingly random, and a little asymmetric, with the left side taking more of a beating than the right side. It starts, stops, and then starts again.

The altimeter is slowly, steadily, unwinding. I am sinking out of my current altitude. Airspeed degrading. 130 kts now. Book stall speed is 80. I push throttles full forward to takeoff power, mixtures to full rich, and props full forward. The fuselage lights are now frozen over so I can no longer see the amount of ice building on the wing leading edges and across the upper surfaces. My feet dance on the rudder pedals, trying to keep the ball centered. Wrestling with the yoke to maintain wings level. Even with full power, I am still descending. Am I going to ride this airplane into the ground?

Jagged bolts of lightning now tear the black fabric of the night and light up the amorphous clouds engulfing me. Thunder crashes and reverberates in my ears. Turbulence continues to bat me around relentlessly. Never before have I so much wished to be somewhere - anywhere - else. I continue to battle the controls, but now I think I am losing.

I need to turn a few degrees to the left to try to get back on course, but the airplane seems to have a mind of its own. It wants to drift right instead. Sluggish and heavy on the controls. It feels as if I am flying sideways. Airspeed now 110 kts. With the load of ice, I am carrying, at what speed does the airplane stop flying? I remain alert for the stall warning horn. At any moment, the alarm could go on – and stay on. I wipe perspiration from my forehead with my shirtsleeve. My mind reels. What happens if the Queen Air stalls and falls out of the sky? At my current rate of descent, I will not have much time or altitude above the terrain to attempt a recovery.

A few moments later, I hear a short, loud boom. The aircraft is shaking noticeably. I think, "This is it!" Almost fearing to look, I turn my head to the side windows. The ice, inches thick in places, is slipping off the wings and engine nacelles in large sheets and in little pieces, disappearing into the black void behind me. Chunks of windshield ice are melting away. Then, it is almost all gone. Having descended below the overcast, the air is now clear and smooth. Airspeed and rate of climb increasing. The altimeter reads less than 3,000 feet. I am in control of the airplane again.

The lights of the city of Banning are visible to my left, Palm Springs to my right. I have not called a Mayday because I was too busy dealing with the emergency. I radio LA Center and, in as calm and as steady a voice as I can manage, I cancel my IFR flight plan and provide a PIREP on my just concluded ride in the turbulence and ice. I advise them my intention is now to proceed VFR direct Laguna.

Visibility under the overcast is excellent. I can see the Salton Sea, with hundreds of lights from residential neighborhoods, observable in the distance. In a few more minutes, El Centro and Yuma appear over the nose of the B80.

I make straight in for Runway 06, and land at KLGF. Seeing the runway lights on short final growing larger in the windshield in front of me is a welcomed sight. Earlier, during the worst of it, I was not certain I would ever land this airplane under control again. Boxes of processed data reports, securely tied down in the cabin behind me, are turned over to a waiting Lockheed employee. The employee makes no comment to me, although I must look ashen from my bout with the elements. The Queen Air, glistening in the hangar's light and still dripping in places from the melted ice, is put away for the night, but not before I perform a walkaround. I notice a significant number of small, irregular-shaped dents on the left side of the fuselage, just about in line with the arc of the prop blades. Physical confirmation of my ordeal. I will tell them about the damage in the morning.

Now more relaxed, but physically spent, blood pressure and heart rate close to normal again, I am introspective on my drive to the motel. Two big questions: "Why did the de-ice equipment on the Queen Air, about as sophisticated and effective as any available, not perform better on this stormy night?" and "Why did I survive to tell the story?" In response to the former question, I think the technical answer is that the ice I encountered simply overwhelmed the de-ice systems. The rate of accumulation of ice exceeded the ability to shed it. As to the latter question, I cannot provide an answer. I have thought about it often. I wish I could.

Given the known ice certification of the Queen Air and the forecast information I reviewed at the time of my departure from Van Nuys, the intended flight presented a reasonable and manageable level of risk. What I could not know was, on this gloomy and random night, a demon lurked in the clouds. A cold, merciless demon, whose unwelcomed embrace has wrecked airplanes and claimed the lives of countless pilots and passengers in the past, and who will do so again in the future. Tonight, the demon stalked me.

I enjoyed a wonderful Christmas with my family in 1972. I had much to be thankful for.

In the end, the Cheyenne Attack helicopter was not chosen for further development and production. The Army opted instead for the Hughes AH-64 Apache Attack helicopter. I still believe the Cheyenne performed as well or better, and was as capable, as the Apache. But, after all, I am a Lockheed guy.

Dean Zakos

EDITOR'S NOTE: Dean Zakos (Private Pilot ASEL, Instrument) of Madison, Wisconsin, is the author of "Laughing with the Wind, Practical Advice and Personal Stories from a General Aviation Pilot." Mr. Zakos has also written numerous short stories and flying articles for *Midwest Flyer Magazine* and other aviation publications.

DISCLAIMER: This article involves creative writing, and therefore the information presented may contain fictional information, and should not be used for flight, or misconstrued as instructional material. Readers are urged to consult with their flight instructor about anything discussed herein. ❑

An Upload Feature To AMCS

by Dr. Bill Blank, MD

Dr. Bill Blank

Where did I come up with this title? Why would I write about it? In a way, it's one of the most significant articles I have written. The title of this column is *"High On Health."* It seems like most of my articles are about how to navigate the slow and cumbersome FAA aeromedical certification system. In my opinion, most of the time, the FAA gets the certification of airman with health issues correct, but it takes much too long. The development of electronic records systems began in the 1960s. It has now evolved into a highly practical, speedy system. When I was in medical school, it was necessary to see an x-ray image in the radiology department. Thanks to modern technology and changes in policy and procedures, it is now available at your workstation on the computer and can be sent securely, electronically elsewhere as needed.

Until recently, any request for additional medical information requested by the AMCD (Aero Medical Certification Division) required the records be mailed to FAA headquarters in Oklahoma City. When they arrived, they first went to the mail room, then to security where they were inspected for safety. After that they had to be scanned into the medical record before ever being evaluated by anyone. This process usually takes between one to two weeks. It was over six weeks during the COVID pandemic.

AMCS stands for Aero Medical Certification Subsystem and is the computer system which handles FAA flight physicals. The FAA form 8500-8 which you complete on MedXPress is downloaded and completed by your AME at the time of your exam and submitted electronically to AMCS. The FAA physicians and staff use it to process your exam and communicate with you. The upload feature is big news and long overdue. Now your AME will be able to upload additional medical information at the time of your flight physical or later. It will go directly to your record. This should definitely speed up the certification process and should be operational by the time you read this article.

Sometimes the FAA requests additional information. Frequently they want a current detailed clinical progress report. Your AME will now be able to upload this. There is often confusion regarding what they are requesting. An After-Visit Summary you print from the patient's portal won't be sufficient. They are looking for specific information. Current means within 90 days. A summary of the condition; medications including dosages and side effects, if any; clinical exam findings (an exam must have been done); diagnosis; assessment (prognosis) and follow-up are needed. The After-Visit Summary is not acceptable. There is detailed information on this subject in the AME Guide. Search Clinical Progress Note. Show this to your physician to be certain you get all you need the first time. This will save you and your AME time and money!

EDITOR'S NOTE: Columnist William A. Blank is a physician in La Crosse, Wisconsin, and has been an Aviation Medical Examiner (AME) since 1978, and a Senior AME since 1985. Dr. Blank is a retired Ophthalmologist, but still gives some of the ophthalmology lectures at AME renewal seminars. Flying-wise, Dr. Blank holds an Airline Transport Pilot Certificate and has 6000 hours. He is a Certified Instrument Flight Instructor (CFII) and has given over 1200 hours of aerobatic instruction. In addition, Dr. Blank was an airshow performer through the 2014 season and has held a Statement of Aerobatic Competency (SAC) since 1987. He was inducted into the Wisconsin Aviation Hall of Fame in 2021.

DISCLAIMER: The information contained in this column is the expressed opinion of the author only, and readers are advised to seek the advice of others and refer to the Federal Aviation Regulations and FAA Aeronautical Information Manual for additional information and clarification. ❑

The Aviation Elephant In The Room, Mental Illness & Pilots

by Bob Worthington
www.BobWorthingtonWriter.com

What We Do Not Talk About


Bob Worthington

As people gather around the office coffee pot, at happy hour after work or munching burgers at a weekend barbeque, they may discourse about their kid's recent tonsillectomy, or a spouse's broken toe, or how the influx of pollen has increased their allergies. But no one talks about their "mental illness." This is the elephant in the room no one discusses.

Yet the National Institute of Mental Health states that 19% of Americans experience mental illness issues. The Hope for Depression Research Foundation says that depression is the number one cause of disability worldwide. Mental illness is a mental, behavioral, or emotional disorder. Severe mental illness is where vocational or social life activities are functionally impaired.

For pilots, this topic is taboo and best avoided. Bringing up this subject or seeking treatment may mean a loss of flying, for a long time.

Mental Illness & Pilots

Several studies find that pilots are not immune to mental health issues. The challenges and demands on professional pilots can be fierce. The responsibilities of commercial aviators and pressures placed on them by their superiors seldom diminish. One study found that up to 12% of commercial pilots encounter mental health disorders with up to 27% of those pilots experiencing heavy workloads being affected (1).

Despite the excellent physical condition of pilots, they experience mental health issues the same as the rest of our population. While workers in professional institutions, retail operations, construction sites, or any other workplace may seek help with little fear of becoming unemployed, not so much with pilots.

In 2015, Germanwings Flight 9525, slammed into the French Alps, a deliberate act of the copilot, killing all 150 onboard. The copilot was diagnosed with a psychosomatic illness, which he hid from the airlines.

In July 2022, in North Carolina, a plane used for parachute jumps had to abort a landing (the right main landing gear was torn off), flown by the copilot. During the go-around, the distressed copilot climbed out of the right seat, moved to the rear of the plane, opened the rear ramp, and excited the airplane. The National Transportation Safety Board's (NTSB) initial report simply states the copilot exited the plane without a parachute. The pilot stated his copilot jumped out of the plane.

In September 2022, a man stole a King Air from a Mississippi airport, threatened to crash it into a local Walmart, but instead crash landed in a field after several hours of flying. Reports and details are not clear. Some news reports state he was not a pilot (but he successfully departed in a twin and flew it for a few hours?). Others said he placed a suicide note on Facebook. He claimed he never intended to harm anyone.

Clearly, there are times when mental health issues and pilots do not end well.

Mental Health & The FAA

Let me preface my remarks by stating I have a doctoral degree in psychology with extensive advanced post-doctoral education. For over 11 years, I practiced as a clinical psychologist diagnosing and treating mental illnesses (see **The Making of an Army Psychologist**, by McFarland Publishing, 2022). For over 40 years I was a pilot and an aviation psychologist. In my experience, hiding a mental illness from others (to include physicians) is not that hard to do.

To remain a pilot and exercise the privileges of flying, one must comply with FAA medical regulations. Herein lies some problems. The FAA prohibits piloting if certain mental illnesses are present, such as psychosis, bipolar disorder, some

personality disorders, or substance abuse. Some diagnoses prohibit flying while others may allow flying if there is proof of absence of the disorder, but sometimes there must be a grace period of up to 24 months.

Therapy and medicinal treatment protocols have been successful at curbing mental illness disorders, especially anxiety and depression. Unfortunately, there are medical and behavioral clinicians who believe the FAA's regulations are decades behind medical science because some treatment programs are still not accepted by the FAA.

Keep in mind the primary mission of the FAA is "aviation safety." And keeping pilots with mental illnesses out of the cockpit is a sure way to ensure safety. But today, many forms of mental illness can be treated where the individual can successfully function at work, home, or in social situations without fear of harm.

One of my best friends is a schizophrenic. Decades ago, as a college student, he decided he no longer needed his medication. He became psychotic, was hospitalized, and treated. Realizing he cannot go off his meds again, he has never stopped taking them since then. Avoiding high stress jobs, he has never been hospitalized again. He understands his illness and has no problem discussing his condition with others. Like me with my Agent Orange heart condition, we both depend on medications and specific health regimes to keep us healthy.

Treatment programs may include both therapy and psychotropic medicines. Unfortunately, some are not approved by the FAA. The FAA clearly states that it encourages pilots with mental health issues to seek help, emphasizing that if properly treated, pilots are not disqualified from flying. For many pilots though, noting on a medical exam any hint of a mental illness is perceived as the kiss of death.

A study published by the Journal of Occupational and Environmental Medicine (Healthcare Avoidance in Aircraft Pilots Due to Concern for Aeromedical Certificate Loss: a survey of 3765 pilots, April 2022) reveals that 56% of the pilots surveyed did not seek healthcare to avoid any negative aspects of their medical exam.

Health care as viewed by pilots is a topic best hidden. Because of this prevalent feeling, the aviation industry has taken steps to aid this situation. American Airlines, Delta, and other airlines have programs to help all employees with mental health issues. American Airlines has its peer-to-peer care, using trained volunteers for its Project Wingman where pilots provide support to other pilots and their families. The Air Line Pilots Association has its Pilot Peer Support (PPS) program where peer pilots provide counseling and broad advice to pilots and their families. Delta has an Employee Assistance Program where a master's-level mental health counselor can provide immediate help to employees and their families. Other airlines offer similar programs to assist employees and family members deal with mental health issues.

Around the country are a variety of private medical and mental health clinics that specifically cater to the aviation industry. Designed to treat air crew members with mental health disorders to get them back in the cockpit are specialists, such as Emerald Mental Health, Aviation Medicine Advisory Service, or Bradford Health Services. While these programs are not cheap, insurance may cover some costs. Other non-clinic programs such as HIMS (Human Intervention Motivation Study) combine a network of professionals specifically put together to detect and treat substance abuse problems to place pilots back on the flight deck.

Some collegiate aviation programs and professional pilot schools now have mental health counselors available to help students deal with the pressures of flight training.

Despite these dire comments on pilots and mental health issues, mental health breakdowns in the cockpit are extremely rare. Yes, this topic is the aviation elephant in the room, but mental health issues should not be self-treated or ignored. Feelings of depression, anxiety, panic attacks, or other emotional states are best treated by professionals. As this column has pointed out, numerous options exist for pilots to seek help from mental health professionals trained to offer support, counseling, or medical intervention, specifically for pilots.

What The FAA Is Doing

Most programs, as mentioned, are for professional pilots seeking mental health help to retain their jobs, flying. The situation for the non-professional private pilot is considerably different. In most instances a career is not at stake, but the same FAA regulations apply. A private pilot holding a Class III medical certificate faces the identical scrutiny if being honest, by declaring at the next medical exam, having sought mental health care.

Most physicians are not trained in dealing with mental illnesses, so the FAA is providing additional mental health training for its Aviation Medical Examiners (AME). Additional FAA mental health professionals are being hired. Both the FAA and the aviation industry recognize how serious mental health issues are. Together they are working on research studies examining programs and medicines, seeking improved ways to treat mental illnesses… Ways to get pilots with mental health concerns back in the cockpit, quicker!

The FAA strongly encourages all pilots with mental health issues to seek care, stating that under certain conditions, pilots can fly while taking prescribed mental health medication.

Mental illness in aviation is a serious matter. It is being addressed by the FAA, the airlines, and aviation training programs. It is a complex situation with no easy answers. Like other medical conditions, it is best if affected pilots recognize mental health symptoms and seek help. Yes, for some, it may mean leaving the cockpit for a period. But, for most pilots with a mental illness, professional assistance does lead back into the cockpit.

Reference: Mental Disorders Among Civil Aviation Pilots

in *Aviation, Space, and Environmental Medicine:* Vol 83, No 5, May 2012 and Assessing Pilots with 'The Wrong Stuff': a Call for Research on Emotional Health Factors in Commercial Aviation in *International Journal of Selection and Assessment:* 16 April 2003.

EDITOR'S NOTE: Pilot, Viet Nam veteran and former university professor, Bob Worthington of Las Cruces, New Mexico, is the author of "Under Fire with ARVN Infantry" (**https://mcfarlandbooks.com/product/Under-Fire-with-ARVN-Infantry/**), and producer of the 2019 film "Combat Advisor in Vietnam" (www.borderlandsmedia.com). Facebook: Bob Worthington Writer. Website: **www.BobWorthingtonWriter.com**. Bob Worthington has placed excerpts about combat flying in Vietnam (from his books) on his website. Here is a direct link to those excerpts: **www.BobWorthingtonWriter.com/combat-flying-in-vietnam/**. Every couple of months, he adds another excerpt.

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I got ethanol in my gas… why?

by Pete Schoeninger


Pete Schoeninger

Q) When I test car gas (my airplane has a car gas STC) that is advertised being "non-ethanol," usually one of the six cans I fill tests positive for ethanol. The others always test negative. The convenience store manager where I buy my gas checked with his sources and they swear up and down that their no ethanol gas really is no ethanol. So why would one, and always just one, of the cans I fill test positive?

A) When you start filling your first can, the gas out of the nozzle is from whatever grade of fuel was sold to the previous customer, thus a good chance of a trace of ethanol. To avoid this possible problem, put the first gallon or two of non-ethanol gas into your vehicle (provided it can run on that kind of gas) before filling your cans.

Q) There was some press coverage recently about a new Cessna 172 flying from the West Coast to Hawaii. I don't see how this could be done, as fuel required would put the airplane well over gross weight. IF it could be done legally, would you, do it?

A) You're partially correct. To make the flight you would need to takeoff over legal gross weight. This can be permitted, usually up to 20% over gross with a special permit and restrictions. There are firms on the East and West Coasts that install temporary tankage for long distance flights. They are familiar with getting paperwork approved from the feds allowing flights at over gross weight, with special restrictions.

Let's play with some hypothetical rounded numbers. Assume an empty Cessna 172S weight is 1675 lbs., and legal gross weight is 2550 lbs. That gives a useful load for standard operations of about 875 pounds. In still air, you would need about 18 hours to travel the distance of 2200 miles at 120 mph. Let's add 3 hours of fuel to be safe, and let's assume we burn 9 gallons per hour. Twenty-one (21) hours X 9 gallons per hour is 189 gallons (189 gallons X 6 lbs. per gallon) = 1134 lbs. of fuel required. Add 200 lbs. for pilot and minimal survival stuff and you have 1334 lbs. onboard, plus the empty weight of 1675 = 3009 lbs. at takeoff, or 459 lbs. over gross weight at takeoff. This will be just under 20 percent (510 lbs.) over gross weight the feds often limit you to.

You can do an internet search for a Cessna 172S West Coast to Hawaii, August 2022 for more information on a recently completed flight.

And would I do it? If I was young and single, maybe. But I would not do it today now that I am an old coot and have had to make precautionary landings a few times in my flying career. Besides, I can only swim about 50 feet before sinking. There is NO place to land along the way to fix any minor problem. With a nearly new airplane, and that very reliable IO-360 Lycoming engine, the chance of a problem occurring is very, very small, but it is not nil.

Q) My insurance agent called to ask me to increase the hull coverage on my airplane. His reasoning made sense…the replacement cost of my airplane is probably lots more than what it was 2-3 years ago when I first took out the policy. But that also means an increase in premium. Would you, do it?

A) Yes, for sure.

Q) Recently you stated that you found, among others, the Citabria to be an easy taildragger to land. My friend flies a Citabria and a J-3 Cub and he agrees the Citabria is easier to land. I thought Cubs were drop-dead easy to fly, easier than anything else with wings?

A) Unlike many taildraggers including J-3 Cubs, Citabrias have good forward visibility while sitting on the ground. The wing angle-of-attack is less than stall angle at touchdown, so you can land them three-point not quite stalled. The J-3 requires an almost stalling angle of attack on touchdown and has much worse forward visibility. And now my Cub flying buddies will probably be hunting me down this fall after voicing this opinion, because in their eyes, nothing beats a Cub!

Q) To help the family of a recently deceased friend sell his airplane, I have posted a few flyers at our local airport. A couple of folks have looked at the airplane. Each told me "I want to think about it." But I never heard back from them. I related this story to a friend who is a car salesman and he laughed and said he hears that line a lot. What would you do?

A) "I'll think about it" usually means, I am NOT going to buy your airplane at your terms today, and probably not tomorrow either, but I don't have the guts or the courtesy to tell you. The most common reason, but not the only one for not buying, is that the prospect does not have the ability or the inclination to spend as much money as the seller is asking. Your next job as the seller is to probe a little and find out why. Then, maybe, you can resolve those issues and you have a sale!

Let me get on my often-repeated soapbox for a moment… The chance of selling an airplane locally from a local ad is small. You've got to advertise that airplane within a large radius of your local airport, via print and internet advertising (including *Midwest Flyer Magazine*.) It costs several hundred dollars a month to own an airplane. Spend a few hundred bucks on accurate ads, or hire a sales firm or salesman, and "git'er done!"

Q) Are there regulations that require an airplane be grounded or bonded to the refueling source before fueling?

A) The Bible of aircraft refueling is National Fire Prevention Association (NFPA) document 407. As I understand it, it is advisory in nature. But it becomes law if governing bodies of the land you are standing on has made it into regulation. You can locate NFPA 407 online. It is a little cumbersome to read but has good information. Regardless of the law, it is ALWAYS a good idea to bond the airplane and the refueling vessel before refueling. Sidebar, you may note, some car gas pumps recommend touching some metal on your car with the fuel nozzle before refueling, as a bonding effort. (A tip of my hat to my former head lineman, Ray Dalman. Ray later became the manager at the same field he was head lineman at.)

Q) Would there be more value to an airplane which can be approved for car gas vs. a very similar model which could not?

A) To my mind yes, but I have not seen this in the market. If the world situation deteriorates badly, aviation fuel might get awfully scarce vs. car gas being more available. Car gas burning airplanes then would be in more demand. Of course, I wish the best of luck to Swift Fuels and GAMI on their quests to sell airplane fuel to replace 100LL.

EDITOR'S NOTE: Pete Schoeninger is a 40-year general aviation veteran, starting out as a line technician as a teenager, advancing through the ranks to become the co-owner and manager of a fixed base operation, and manager of an airport in a major metropolitan community. He welcomes questions and comments about aircraft ownership via email at **PeterSchoeningerLLC@gmail.com** ❑

It's the people… Thank you to everyone who makes our community so special

by AOPA President and CEO Mark Baker


Mark Baker

What a fantastic year it has been for our community. We're enjoying this passion for flying in numbers we haven't seen for some time. We're staying safer than ever, we've been seeing thousands of our members at fantastic events across the country, and we are making real progress on our pledge to make general aviation totally lead-free.

I'll say this has been a banner year for our community, and one that continually reminds me to be thankful for this wonderful pursuit of ours. I'm truly thankful, not only for the freedom to fly and all the amazing places we get to see, but especially to the men and women who allow us to take flight like nowhere else in the world.

While these pages are filled every month with tales of pilots doing amazing things, new airplanes and innovations coming to market every day, and destinations that lure us to places near and far, we know that it's the people who make general aviation great. These are the people who keep us moving. You may not see them every day, but they play such an important role in keeping GA vibrant and healthy.

Whether it's the line personnel at your local FBO filling your tanks, or the mechanic who's repairing a part and making sure you're good to go for your next destination; the men and women building the next great airframes, engines, and avionics; the staff at the FAA, National Weather Service, flight service, and other important entities making sure your airspace and awareness are as protected as can be; or the U.S. military, which whether through the air, on the ground, or on the sea, protects all of our freedoms every day.

If I wanted to thank everyone who enables me to fly to all corners of this country, it would fill these pages, and probably a couple of issues. I hope you know who you are.

With that said, and in this season of giving thanks, let me call out a few folks and businesses that continue to help me pursue this passion – people who are truly emblematic of the entire GA community.

The manager of New Richmond Regional Airport in New Richmond, Wisconsin (RNH), Mike Demulling, is also the chief pilot of the East Metro Jet Center. Not only is Mike a fantastic pilot, you can also see him pumping gas, teaching people how to fly, and serving as a volunteer pilot for the Saint Croix County Sheriff's Department. Mike sets a great example for all of us.

When I think about wonderful places to fly, Montana is up there with the best of them. When in Billings, I can always count on Aerotronics Inc. at Billings Logan International (BIL) to keep my aircraft in top-notch shape. Aerotronics is a full-service avionics company, and you may remember the folks there from outfitting our recent AOPA Sweepstakes Super Cub with a cabin full of the latest technology. We still talk about that.

Speaking of Montana, I can always count on my friends Roger and Darin Meggers at Baker Air Service (no relation!) in Baker, Montana. You know I love my Piper Super Cub, and I rely on Roger and Darin to keep it in the best shape possible. I detailed in these pages last year how Roger and Darin took apart my reacquired 185 and saw some things that needed immediate attention and saved me from some real potential headaches. That's what Baker is all about.

In my adopted home of Driggs, Idaho, manager Peter Kline and his team at Teton Aviation Center are a welcome sight when I land and pull into Driggs-Reid Airport (DIJ). Peter's team provides amazing service, and is a valuable asset to the region.

And, in my home state of Minnesota, Bruce Hanson and his team at Surfside Seaplane Base (MN24) in Lino Lakes, ensure that I am ready to pursue my passion for flying on floats. The second-largest seaplane base in the United States, Surfside recently celebrated its 50th birthday and I wish them another fantastic half-century ahead.

Of course, this list of thanks would not be complete without a salute to my amazing team at AOPA. Through tireless devotion and commitment to members and general aviation, the team makes my job protecting your freedom to fly much easier. I couldn't do any of this without every single one of them.

In this spirit of giving thanks, make sure to think about the men and women behind the scenes working hard so that we can continually enjoy the freedom to fly. May your holiday season be bright, cheerful, and full of blue skies! ❑

AOPA Asks Canada To Accept Pilots Flying Under BasicMed

The Aircraft Owners and Pilots Association (AOPA) and Canadian Owners and Pilots Association (COPA) have sent a letter to the Federal Aviation Administration and Canada's Minister of Transport asking them to allow U.S. pilots to fly into Canada under BasicMed privileges, noting that the Bahamas, Mexico, and Dominican Republic have already allowed this for several years. "The increase in GA traffic and pilots into Canada would undoubtedly help businesses rebuild, provide opportunities for families to see one another, and allow tourism to again flourish with tens of thousands of border crossings by GA pilots each year," the letter stated.

With the BasicMed program now in its fifth year, more than 60,000 pilots participating, and Mexico and the Bahamas onboard, AOPA and COPA are urging Canada to join the rest of the North American continent in allowing BasicMed operations there as well.

"Since its availability in 2017, BasicMed has proven to be both successful and safe," wrote AOPA President Mark Baker and COPA President Christine Gervais in a letter to Canada Minister of Transport, Omar Alghabra.

Not only has BasicMed proven to be safe as it grows (an analysis of NTSB fatal accident reports found only 10 linked to all classes of medicals with an FAA estimated 76 million flight hours between 2017 and 2019), but the program is helping to reduce the FAA's medical-certification backlog and aviation medical examiners' workloads, they said.

Under BasicMed, a participating pilot may fly an aircraft weighing up to 6,000 lbs to altitudes to 18,000 feet MSL, at a speed at or less than 250 kts, with up to five passengers, plus the pilot aboard. A pilot who has previously held an FAA medical certificate can fly under BasicMed by taking an online medical education course every 24 months and receiving a medical examination from a state licensed physician or an AME every 48 months. BasicMed pilots with a cardiovascular, neurological, or psychological condition are required to undergo additional medical review by the FAA.

The July 2 letter to Alghabra also notes that Canada "remains one of the most popular international destinations for U.S. general aviation pilots," accounting for about 30 percent of annual international GA flights, and now has a rare chance to maximize the impact of accepting BasicMed.

"As we seemingly turn the page on the COVID pandemic and begin to reopen our countries and hopefully our borders, we believe that this request provides a unique opportunity. The increase in general aviation traffic in Canada would undoubtedly help businesses rebuild, provide opportunities for families to see one another, and allow tourism to again flourish with tens of thousands of border crossings by general aviation pilots each year," they wrote.

In 2017, the Bahamas became the first international destination to grant access to pilots flying under BasicMed shortly after the program went live. Mexico followed in 2019. *(Dan Namowitz, AOPA)* ❑

Alliance for Aviation Across America Applauds Passage of Aviation Workforce Legislation

WASHINGTON, DC – On October 3, 2022, the Alliance for Aviation Across America applauded the U.S. House of Representatives' passage of the National Center for the Advancement of Aviation Act (H.R.3428). The bill, introduced by Rep. Andre Carson (D-IN), passed in the House with a vote of 369 to 56.

The legislation will establish the National Center for the Advancement of Aviation to serve as a national independent forum to facilitate collaboration and cooperation between aviation and aerospace stakeholders to support and promote civil and military aviation and aerospace.

Selena Shilad, Executive Director of the Alliance for Aviation Across America, commented, "We thank Members of Congress for their leadership in passing this important legislation, which would introduce our nation's youth to curriculums related to aviation science, technology, engineering and math, create professional opportunities for educators, and increase the availability of economic, safety, and research data related to aviation."

According to a study by Boeing, over the next 20 years, over 2 million new personnel, 602,000 pilots, and 610,000 technicians will be needed to meet the growing demand for travel and tourism.

General aviation is an important component of this sector and a lifeline for thousands of communities across the country, supporting more than one million American jobs and an economic impact of $247 billion per year, as well as many critical services.

The Alliance for Aviation Across America (AAAA) is a nonpartisan, nonprofit, national grassroots coalition of over 7,000 aviation and non-aviation groups and individuals across the country, including businesses, fixed base operators, small airports, elected officials, agricultural and charitable organizations, and leading industry and aviation groups. Formed in 2007, the organization is dedicated to spreading awareness and educating the public about the value of general aviation and local airports. ❑

Cool Things To See From The Air

Cornbelly's corn maze just south of Salt Lake City, Utah.
Cornbelly's Photo

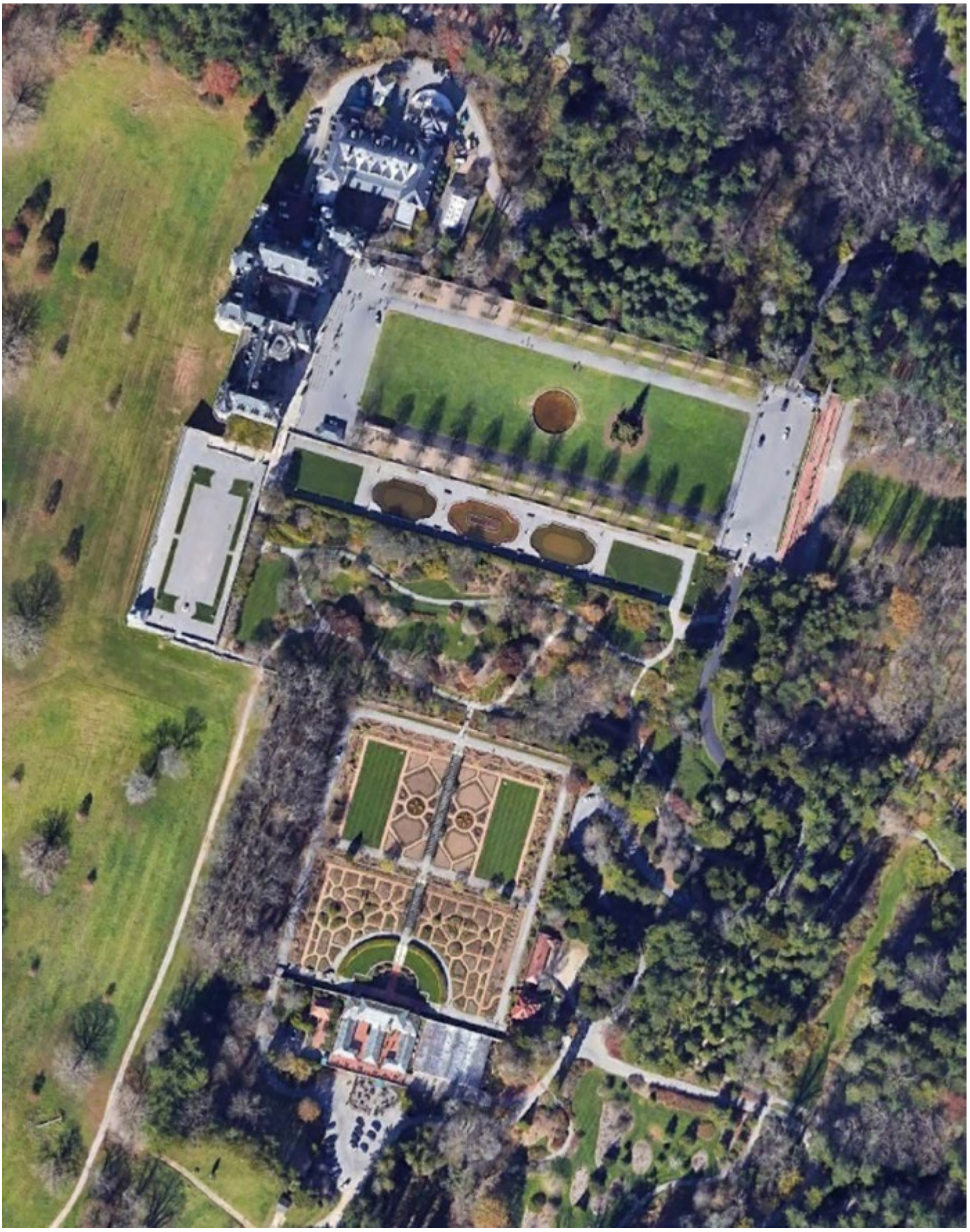
by Yasmina Platt

Fall is upon us and, with that, come corn mazes amongst other things! Let's talk about some of the awesome things we, pilots, can see from the air that others don't have the privilege to!

I must start with the Amelia Earhart earthworks outside of her hometown of Atchison, Kansas. This beautiful 42,000 sq ft art site was created by Stan Herd in 1997. It was constructed on a hillside overlooking Warnick Lake, with a viewing deck. Coordinates to punch on the GPS: 39°32'15.5"N 95°08'42.6"W.

USA Today asks readers for their top 20 corn mazes every year and then 10 of them are selected for the

The Amelia Earhart earthworks just outside of Earhart's hometown of Atchison, Kansas.
Visit Atchison Photo



Like corn mazes, the designs of some of the best gardens around the world are best observed from the air. Among the best are the gardens at the Biltmore Estate in Asheville, N.C.

Google Earth Photo

"Best Corn Maze" award. This year, these are the top 10:

1. Treworgy Family Orchards - Levant, Maine
2. Devine's Corn Maze & Pumpkin Patch - Harrodsburg, Kentucky
3. Cherry Crest Adventure Farm - Ronks, Pennsylvania
4. Davis Mega Maze - Sterling, Massachusetts
5. Denver Downs Farm - Anderson, South Carolina
6. Great Vermont Corn Maze - Danville, Vermont
7. Exploration Acres - Lafayette, Indiana
8. Cool Patch Pumpkins - Dixon, California
9. Maze Craze - New Springfield, Ohio
10. Cornbelly's - Lehi, Utah

This past September, we spent the majority of our (free) time in the Salt Lake City valley. Cornbelly's corn maze just south of SLC is probably my favorite of this year's top 10. Coordinates: 40°25'32.3"N 111°53'32.3"W. I love the message of "Never grow up" and the fact that Peter Pan can fly. I mean truly fly! If only we could too, huh?

Like corn mazes, the design of some of the best gardens around the world is best observed from the air. One of my favorites in the U.S. is Biltmore's in Asheville, N.C. Coordinates: 35°32'25.5"N 82°33'05.6"W.

Architecture is often looked at from a frontal/side angle, but many of the old architecture is best admired from the top. I'm using the Ciudadela de (or Cidatel of) Jaca in my beloved Spain as a good example of this. In addition to being a military fortress, it was also used as a prison. The fortress has a five-pointed starry plan and is preserved practically intact since its construction. Coordinates: 42°34'20.9"N 0°33'08.2"W.

But, if you've read many/any of my prior articles, you know

Another unique site that can only be seen once a year is Nevada's Black Rock City, where tens of thousands of people gather to celebrate Burning Man. The metropolis, dedicated to community, art, self-expression, and self-reliance, continues to grow year after year and, eventually, it will complete the full circle. Coordinates: 40°47'11.0"N 119°12'23.4"W.

National Parks are some of my favorite places to visit and enjoy. So, with that in mind, I can't leave a magical place like Yellowstone out of this list. Grand Prismatic Spring is honestly best seen from the air but plan any possible emergency wisely near it just in case… bubbles and burning water! Coordinates: 44°31'30.2"N 110°50'17.5"W. If you can't fly over it, the second-best place to see it from is the overlook across from it, but this requires a short walk from the Fairy Falls parking lot. However, keep in mind it's hard to see it in the winter. I honestly didn't realize it until I visited it this past February. The air is so cold, and the water is so hot that a cloud of steam is created, making it difficult to see the eye of the spring.

Another unique site that can only be seen once a year is Nevada's Black Rock City, where tens of thousands of people gather to celebrate Burning Man. The metropolis, dedicated to community, art, self-expression, and self-reliance, continues to grow year after year and, eventually, it will complete the full circle. Coordinates: 40°47'11.0"N 119°12'23.4"W.

I'll end with the most unique place I've ever seen from the air: Peru's Nazca Lines. The Nazca Lines are a collection of giant geoglyphs (designs or motifs etched into the ground) created by the ancient Nazca culture (which began around 100 B.C. and flourished from A.D. 1 to 700). These lines (some of which are 30 miles long), geometric designs, and pictorial representations (which can measure up to 1,200 feet) were designated a UNESCO World Heritage Site in 1994 and are still a mystery to researchers despite having been studied for over 80 years. If you don't take to the skies, you can't really see them! Giving you only one coordinate does not do this large area justice, but here are the coordinates for the tree in the provided picture to get you started: 14°41'37.6"S 75°06'51.9"W. FMI, visit **www.airtrails.weebly.com**.

Fly safe and fly often! Have you flown over any of this year's Top 10 Corn Mazes? Send me a note with some of your favorite places to see from the air.

ABOUT THE AUTHOR: Yasmina Platt's full-time job has her planning the future of aviation infrastructure for Joby's electric Vertical Takeoff and Landing (VTOL) aircraft. She also writes an aviation travel blog called "Air Trails" (**www.airtrails.weebly.com**), in addition to articles on pilot destinations for *Midwest Flyer Magazine*. Pilots can locate articles Yasmina has written by going to **www.MidwestFlyer.com** and typing "Yasmina" in the search box, or by going to the "Archives" section, then "Columns," then "Destinations." ❑

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Let's Talk About Hangar Storage

by Hal Davis
WisDOT Bureau of Aeronautics


Hal Davis

Appropriate hangar storage will always be a common point of contention between airports and hangar tenants. Although the Federal Aviation Administration's (FAA) 2016 policy update on hangar storage added some clarity and common sense to the rules, misunderstandings and disagreements remain. So, let's talk about hangar storage. What are the rules and who do they apply to? Why do these rules exist and what can be done to avoid problems?


Whether these hangars are owned by the airport or are privately owned, the FAA hangar storage rules apply if the airport has accepted federal airport improvement grants.

Who must comply?

If the FAA inspects an airport that has previously accepted federal airport improvement grants, the expectation is that all hangars, regardless of if they are privately-owned or airport-owned, should be complying with the FAA's hangar storage policy. However, responsibility for compliance is not that straightforward. By accepting federal airport improvement grants, airport owners agree to comply with the FAA's hangar storage policy, among other things.

In order to rent a hangar or lease land to build a hangar, a hangar tenant must agree to the terms of a lease with the airport owner. To ensure hangar storage on the airport complies with the policy, airport owners are expected to enter into hangar lease agreements with terms and conditions which perpetuate FAA's rules. As far as FAA is concerned, it is ultimately the airport owner's responsibility to comply with the policy. Legally, the hangar lessee only needs to comply with the terms of the lease. Unfortunately, it is not uncommon for a hangar's use to be in violation of the FAA hangar storage policy, but not in violation of a poorly written or antiquated hangar lease.

There are a small handful of airports in Wisconsin that have accepted state airport improvement grants, but not federal grants. These airports, along with any other airport that has not accepted federal improvement grants, need not comply with the FAA hangar storage policy. Instead, airports which have only accepted state funding must comply with the conditions of state aid listed in Wisconsin Administrative Code TRANS 55. TRANS 55 does not establish any specific requirements as it relates to hangar storage but does establish a general requirement to prohibit any activity which interferes with air transportation. While unprecedented, an airport owner could be found in violation of TRANS 55 if the non-aeronautical use of a hangar is having a significant impact on airport activity.

What are the rules?

As I alluded, I think most people agree the FAA hangar storage policy is common sense and, on the surface, appears uncomplicated. The rules are summarized as follows:

1. * All hangars must be used for a primary aeronautical purpose. FAA considers the following uses aeronautical:

a. * Storage of active aircraft;
b. * Shelter for maintenance, repair, or refurbishment of aircraft, but not the indefinite storage of non-operational aircraft;
c. * Non-commercial construction of amateur-built or kit-built aircraft;
d. * Storage of aircraft handling equipment, (e.g., tow bar, glider tow equipment, work benches, tools and materials used to service aircraft);
e. * Storage of materials related to an aeronautical activity (e.g., balloon and skydiving equipment, office equipment, teaching tools).

2. Provided the hangar is used primarily for an aeronautical purpose, an airport may permit non-aeronautical items to be stored in hangars provided they do not interfere with the aeronautical use of the hangar.

3. While airports may develop more restrictive rules, FAA would not consider non-aeronautical storage to interfere with the aeronautical use of the hangar unless the items: 1) Impede the movement of the aircraft in and out of the hangar. 2) Displace the aeronautical contents of the hangar. A vehicle parked at the hangar while the vehicle owner is using the aircraft would not be considered as displacing the aircraft. 3) Impede access to other aeronautical contents of the hangar. 4) Are used for a non-aeronautical business or municipal agency function (including storage of inventory). 5) Are stored in violation of airport rules and regulations, lease provisions, building codes or local ordinances.

4. Hangars cannot be used as a residence. The FAA differentiates between crew rest areas and a hangar residence in that the former are designed to be used for overnight/resting periods for crew members and not as a permanent or even temporary residence.

5. If the airport has empty hangars with no demand for aeronautical use, the airport can rent hangar space for temporary, non-aeronautical storage provided:
a. * The non-aeronautical storage is pre-approved by FAA.
b. * A fair market value commercial rental rate is charged.
c. * The hangar reverts to aeronautical use as soon as there is demand.

Why do these rules exist?

The purpose of these rules is to ensure bona fide aeronautical users are given the first priority to utilize the airport and the FAA's investment therein. In other words, having active aircraft in all hangars means more aircraft using the nation's air transportation system and contributing to the aviation industry. Without this policy, the fear is that hangar tenants will, at best, not put the airport to good use, and at worst, block bona fide aeronautical users from using the airport while at the same time repurposing the public's investment in the airport for commercial non-aeronautical purposes which could have both safety and ethical concerns.

Common Questions & Issues

Granted, the current FAA hangar storage policy provides much greater clarity than before, but some common questions and issues remain.

First of all, the policy establishes storage of an "active" aircraft as an appropriate use and stipulates the "indefinite storage of non-operational aircraft" is not. What is intended seems black and white at first, but in reality, many situations fall in a gray area. How often does an airplane need to be flown for it to be considered "active?" FAA does not say.

Is this hangar compliant with FAA policy?
Possibly
Is that an "active" aircraft?
Is someone paying the hangar lessee to store the cars?

The hangar storage policy provides airport owners the opportunity to be more restrictive than the policy. Some airports have used this to further define what is considered an "active" aircraft. For example, some airports require hangar tenants to provide proof of a completed annual inspection and/or proof their aircraft is properly registered. These additional requirements can help to weed out "hangar queens" and prevent them from taking up valuable hangar space. However, these requirements also take additional time to track. Unfortunately, this is not a perfect solution to the problem either. Some aircraft types, for example ultralights, don't always require an annual inspection or registration, yet storage of an "active" ultralight would certainly be considered a proper aeronautical use of a hangar.

A common question is what to do if a hangar owner passes away, loses their medical, or sells their aircraft. How an airport owner can legally address this type of situation will depend on the terms of the lease agreement. However, the goal should be to return the hangar to primary aeronautical use within a reasonable amount of time. That might mean encouraging/requiring a good faith effort to sell the hangar, sublease the space to someone who has an aircraft, or acquire/build a new aircraft. Technically speaking, a completely empty hangar is not a violation of the FAA hangar storage policy until non-aeronautical items are added.

Avoiding Problems

How about this hangar? Again, possibly compliant.

Avoiding any and all hangar storage problems is improbable. Avoiding the courtroom and being found in noncompliance by FAA are more realistic goals. For an airport, achieving those goals starts with a good understanding of what is written in the lease agreements. Today, most hangar ground leases still predate the 2016 iteration of the FAA's hangar storage policy by a decade or more. It's important to take time to identify what deficiencies might exist within the lease language as far as ensuring compliance with the current FAA hangar storage policy is concerned. Does the lease specify the hangar must be used to store an aircraft or other aeronautical items? Is there a requirement that the aircraft be active or airworthy? Does it say anything about storing non-aeronautical items?

If deficiencies are found, there are few different courses of actions to be taken. The easiest thing to do is to address the deficiencies with a new lease template for all new lease agreements going forward. What's more difficult is addressing existing lease agreements. With the cooperation of the lessee, the airport may be able to amend the current lease as necessary. After all, if the airport is found in noncompliance and loses federal funding eligibility, that will eventually negatively affect hangar tenants as well. If that's not an option, hangar storage rules can also be codified into a local airport rule or ordinance. Whatever the solution may be, working with the airport owner's legal counsel is essential.

Some leases include a general provision which requires the lessee to comply with all applicable Federal Aviation Administration regulations. While this may give the airport the legal authority to compel a lessee to comply with the FAA hangar storage policy, relying solely on this type of general requirement does a disservice to the tenant. Is it reasonable to expect the tenant to stay up to date in changes to FAA policy? Instead, airports should regularly communicate hangar storage expectations to their tenants, regardless of how clear the storage rules are in the lease. This helps to prevent tenants from forgetting the rules or claiming they didn't know about the rules in the first place. Along with regularly communicating the storage rules, airports should also regularly inspect all hangars for compliance. Ignorance about what is being stored in hangars is no excuse for lack of compliance. How often the inspections need to occur will depend. There is no required frequency. Without frequent inspections though, an airport manager may have a hard time ensuring compliance at an airport with dozens of hangars. Conversely, at an airport with only a few hangars and all active users, the airport manager may be able to adequately keep tabs on everything more easily without the need for frequent inspections.

Regular inspections of all hangars also help to reinforce the idea that the hangar storage rules apply to everyone equally. Most complaints related to hangar storage are the result of one tenant feeling singled-out or treated differently. By regularly notifying all tenants of the rules and implementing an inspection program, hopefully these situations can be avoided.

Final Thoughts

One of the most important factors in discussing hangar storage is the local demand. There are many airports in Wisconsin that are out of readily developable hangar lots. Similarly, there are many airports that have long waiting lists for hangar rental space. At a minimum, these airports should be going to great lengths to ensure compliance with the FAA hangar storage policy. In addition, airports with this level of demand may want to consider going above and beyond to ensure the hangars are also being put to their best use.

While hangar storage can be a complex and touchy subject, the Wisconsin Bureau of Aeronautics is here to help. For airports, we can provide hangar lease templates and examples. We can review draft leases and talk through issues related to hangar storage to both airports and tenants alike. If you have hangar storage questions or want help with a specific situation, please feel free to contact me at howard.davis@dot.wi.gov or call 608-267-2142. ❑

MINNESOTA AERONAUTICS BULLETIN
www.dot.state.mn.us/aero
The State of Minnesota provides this Technical Bulletin in the interest of Aviation Safety and to Promote Aeronautical Progress in the State and Nation.
Ryan E. Gaug, Interim Director
Minnesota DOT Office of Aeronautics
395 John Ireland Blvd. • St. Paul, MN 55155-1800
651-296-3000

Air Service From Your Regional Airport

by Kevin Carlson
Planning Program Coordinator – North Region


Kevin Carlson

The airline industry is in a period of rapid change. The major airlines had faced fierce competition from low fare carriers in many large markets and then the COVID pandemic hit and basically shut down the entire airline industry. The large airlines had been relying on smaller regional airlines to serve the smaller markets. The regional carriers are still converting their fleets from turboprops and small 50-seat regional jets to larger 90 to 150 seats and less frequency. This trend could result in the loss of air service in some of the small, less populous markets. Currently, there are nine airports in Minnesota with commercial service: Minneapolis-St. Paul-(HUB), Duluth, Rochester, St. Cloud, Bemidji, Brainerd, Chisholm-Hibbing, International Falls, and Thief River Falls.

The Local Airline Service Action Committee (LASAC) was organized in 1964. The purpose of this small but influential organization is to promote airline service to small and medium size communities in Minnesota. This group has provided congressional testimony for the continuation of the Essential Air Service Program, encouraged marketing plans for member airports, provided united support in negotiations with airlines to retain flight schedules and services in the remote areas of our state, and represented important business needs of those communities to national leaders.

Having a hub airline at MSP contributes to both the quantity and quality of air service in Minnesota. Without it there would be fewer flights overall and fewer destinations with nonstop service.

Worthington, Mankato, Fergus Falls and Fairmont lost commercial air service to their community in the 1990s. Grand Rapids lost commercial air service in 2003.

Understanding Your Airports Air Service Needs

One of the most important factors in evaluating the ability of a community to support expanded air service is to understand *how people in a region use the air service that's available*. No airport retains all the passengers that travel to and from its core market area. The single most important piece of data an airport can understand is what share of passengers traveling to and from the immediate region use its services and what share drive to competing airports. Drive diversion or passenger "leakage" studies, statistically analyze passenger data, determining just how many core market passengers use their local airport, and how many drive to other airports. The overall market size is critical in making the case that a region can support more service. This type of data can figure out why passengers drive to other airports. It could be lower fares or non-stop flight options.

Understanding your local Airports Air Service needs is critical. Air services drives airport revenue sources and stimulates regional economic development growth including visitor expenditures and tax revenues. By providing new travel choices, increased competition, greater convenience and possibly lower fares, new travel and economic opportunities are generated for local businesses, residents, and visitors. While air carriers are continually looking for new routes to serve, they do not always have the resources and local data to examine all potential routes. Airports play a critical role in bringing new route opportunities to the attention of carriers. In addition, the air service development strategy forms the basis for coordinating stakeholder support and ensuring that efforts and resources are focused on those opportunities with the greatest potential for success. Air service development is therefore a vital activity which should be at the center of the strategic planning process for every airport.

Air Service Marketing Program MnDOT Aeronautics

Air Service Marketing legislation enacted in 1997 (State Statute 360.0151) provides assistance to those communities in obtaining or enhancing scheduled air service. Funding for this program comes out of the State Airport Fund. The fund started at $150,000.

Eight Greater Minnesota communities with commercial air service are eligible to apply for a reimbursable Air Service

Marketing Grant which has an appropriation of up to $300,000 biennially. Eligible expenses for reimbursement are advertising of air service, public relations activities intended to educate the public on the value of the airport and its commercial passenger air service, marketing studies, and service improvement activities such as route analysis.

The marketing program may also be used to fund studies to determine the feasibility of commercial air service.

Grants may not be used for an activity that promotes an airport within the service area of another airport, a promotional activity that features one specific air carrier at an airport when more than one air carrier serves the airport, administrative costs associated with the marketing program or with the routine operation of the airport, or payments to air carriers as fare subsidies, service subsidies, or seat guarantees.

Continuing Support

The Office of Aeronautics continues to work with airport sponsors (i.e., the municipality, county, airport authority that owns the airport) to provide technical and financial assistance for this Air Service Marketing Program.

For more information contact: Rylan Juran, Planning Director, Rylan.Juran@state.mn.us ❑

Flight Tracking

by Sheila Kvilvang
Air Transportation Services Dispatcher


Sheila Kvilvang

It wasn't long ago that the only reliable way for anyone outside of the Air Traffic Control community to confirm an aircraft had landed was for the pilot to call via telephone to report their arrival. This often led to varying degrees of anxiety for friends, family members, or coworkers of the pilot or passengers on the flight. Recent technological advancements with flight tracking applications have significantly improved our ability to keep tabs on a flight of interest.

Modern flight tracking applications have various uses. For example, imagine that you are waiting to board a flight out of Hibbing, Minnesota on a snowy day. Using a flight tracking application on your cell phone, you check the status of the flight in progress and observe "your" aircraft turn around and return to Minneapolis. Unlike the rest of the passengers, you do not need to wait for a public announcement from the airport staff and make your way to the ticket counter or bank of phones to be the first to be reaccommodated.

Or imagine that you are flying your personal aircraft from Minnesota to a meeting in western New York when an unexpected fog bank in Pennsylvania requires a change to your routing and arrival time. You send a text message via your cockpit-installed tracking application to your meeting hosts to update them on your diversion plan and ETA. You also know friends and family are watching your flight progress and can send you a text to reassure you they are aware of your location.

Both above are examples of technology that is in use today using a modern flight tracking application.

Flight tracking applications help communicate quickly – or even automatically – which can benefit family, friends, and associates who can easily track your location as you fly. This kind of information provides peace of mind. It also can help save time by allowing others to reschedule meetings and travel arrangements in a timely manner.

People whose jobs involve tracking general aviation flights also find flight tracking applications critical to their ability to provide important communications to passengers and pilots, and enhance flight safety, operational performance, record keeping and statistical reporting. Some powerful features included with some modern flight tracking applications include:

- * Texting communication between flight tracker and cockpit during flight (non-critical phase).
- * Real-time latitude and longitude availability to assist in rapid emergency response.
- * Historical information to fill in missing data or export to operational reports.
- * Current weather overlays on displays.
- * 3D replay of the flight.
- * Multiple search options to find flights.
- * GPS accuracy.
- * Ability to view delays, cancellations, and factors contributing to possible irregular operations.
- * Route analyzers for flight planning.
- * Ability to identify aircraft type.

The number and types of flight tracking applications continue to grow. Finding the tracking tool best suited to your individual needs will involve research and trial of different options. Use your favorite internet search engine to explore "flight tracking." As you review the different applications, attention should be paid to which functions you can access for free, paid subscriptions that open access to additional functions, the look of the application, and which applications require the purchase and installation of specialized equipment in the aircraft. ❑

Wisconsin Aviation Conference 2022 Topics & Recognition

Benny Anderson, Executive Director of "Visit Eau Claire."

Guest speaker, Katie Leinenkugel, of "Leinenkugel Brewing Company."

Host airport director, Charity Zich of Chippewa Valley Regional Airport (KEAU).

by Dave Weiman

EAU CLAIRE, WIS. – Welcoming attendees to the Wisconsin Aviation Conference, October 3 - 5, 2022, was the President of the Wisconsin Airport Management Association (WAMA), Greg Cullen, Director at Southern Wisconsin Regional Airport in Janesville, Wisconsin; and Benny Anderson, Executive Director of "Visit Eau Claire."

Eau Claire may be home for "Menards" building supply company, which operates a large fleet of aircraft, but nearby Chippewa Falls, Wisconsin, is home for "Leinenkugel Brewing Company." Host airport director, Charity Zich, welcomed guest speaker, Katie Leinenkugel, to the conference, October 4. The opening reception and dinner were held the evening prior at the beautiful "Leinie Lodge." Katie's presentation was entertaining and learning the history of the brewery was interesting.

A general session followed featuring Dave Greene of the Wisconsin Bureau of Aeronautics, Deb Bartell of FAA's Chicago Airports District Office, and others.

Faye Malarkey Black, President and CEO of the Regional Airline Association, and Michael Mooney of Volaire Aviation Consulting, discussed how pilot shortages are affecting regional airline service to smaller Wisconsin communities. They noted how the airlines are

Dave Greene, Director of the Wisconsin DOT Bureau of Aeronautics.

The opening general session featured a panel of state and federal aviation officials.

(L/R) WAMA President Greg Cullen presented the **Airport Engineer Award** to Ryan Falch of Short Elliott Henderson (SEH).

(L/R) WAMA President Greg Cullen presented the **Lifetime Service Award** to Randy Van Natta of Becher Hoppe.

(L/R) WAMA President Greg Cullen presented the **Distinguished Service Award** to Michael Stephens of Dane County Regional Airport, Madison, Wis.

(L/R) WAMA President Greg Cullen presented the **Person of the Year Award** to Josh Holbrook of the Wisconsin DOT Bureau of Aeronautics.

(L/R) WAMA President Greg Cullen presented the **Blue Light Award** to Frank Pipia, Jr. of TSA.

replacing their small regional jets with larger jets, and that career opportunities within the airline industry are plentiful.

An awards luncheon recognized individuals who have made contributions to aviation in Wisconsin.

Ryan Falch of the engineering and consulting firm, Short Elliott Henderson (SEH), received the "Airport Engineer Award." Falch, now a senior engineer with the company, has assisted many airports in Part 139 inspections, capital improvement and master planning, and runway reconstruction. He designed, engineered, and managed several large-scale projects at Alexander Field (KISW) in Wisconsin Rapids, and is dedicated to familiarizing himself with an airfield, its community, and stakeholders. SEH is headquartered in St. Paul, Minnesota, has offices in 11 states, and employees in more than 24 states.

Michael Stephens of Dane County Regional Airport in Madison, Wisconsin, received the "Distinguished Service Award." Stephens currently serves as the Director of

Operations and Public Safety for the airport. He has been an invaluable resource and friend to Wisconsin airports in many professional capacities, including as a former FAA Certification Safety Inspector for the Great Lakes Region. Stephens is always willing to assist airport operators when called upon, and his vast knowledge and extensive connections will be missed as he retires.

Receiving the "Lifetime Service Award" was Randy Van Natta of Becher Hoppe, an engineering and consulting firm in Wausau, Wisconsin. Van Natta served as President and CEO of Becher-Hoppe Associates from 2004 through 2021. While president, he actively consulted on airport improvement projects and provided quality assurance reviews. Since the beginning of 2022, Van Natta has served as a senior consultant for the company. Among his many credentials, Van Natta holds a Private Pilot Certificate.

Frank Pipia, Jr. of the Transportation Security Administration (TSA) received the "Blue Light Award" for his work in communications. Pipia provides strategic communications and public affairs, graphic design, and public and media relations for TSA. He works closely with Wisconsin's congressional delegation and often invites delegation members to tour Wisconsin airports while Congress is in recess. Pipia also coordinates and promotes TSA Pre-Check enrollment events. During COVID, Pipia was a steadying presence, relaying to the public the positive things airports did to keep the traveling public safe.

Josh Holbrook, a project manager with the Wisconsin Bureau of Aeronautics, was named "Person of the Year." Project managers typically are only assigned one commercial service airport, but Holbrook has juggled between two airports on multiple occasions – Chippewa Valley Regional Airport (KEAU) and Green Bay Austin Straubel International Airport (KGRB). Both airports have extensive capital improvement programs and have added additional projects with CARES and AIG funding. Holbrook always supports airports, aggressively pursuing funding opportunities and never says no when asked to help with other projects, despite recent staffing shortages and additional federal grant programs.

Also recognized at the awards luncheon were Phil Peterson and Mark Peterson of Oregon, Wisconsin, for completing the "Fly Wisconsin Passport Program," having visited all 125 participating public airports. This Gold Level accomplishment earned the Petersons leather flight jackets. For additional information on the program, go to http://wisconsindot.gov/Pages/travel/air/pilot-info/flywi-howto.aspx, email flywi@dot.wi.gov or call (608) 266-3351. The Fly Wisconsin Passport Program is sponsored by the Wisconsin Bureau of Aeronautics and Wisconsin Airport Management Association. Since the program launched in 2017, 2,200 pilots have registered.

Father and son, Phil and Mark Peterson of Oregon, Wisconsin (center), were recognized for their participation in the "Fly Wisconsin Passport Program."

Congratulating the Petersons for reaching the program's Gold Level, having visited 125 public airports, were Kurt Stanich of Waukesha County Airport (left), and Greg Cullen of Southern Wisconsin Regional Airport (right). Stanich and Cullen are members of the Wisconsin Airport Management Association (WAMA) Board of Directors. WAMA cosponsors the passport program with the Wisconsin DOT Bureau of Aeronautics.

Additional conference topics included commercial air service, general aviation and airport board roundtables; lease management; first responder preparedness at airports; a Wisconsin Bureau of Aeronautics update; general aviation airport planning; unleaded aviation fuels; industry advocacy; marketing strategies; general aviation airports and the airport manager's role; understanding the certification and commissioning of an airport's AWOS/ASOS; FAA's Bipartisan Infrastructure Law funding; and preserving, improving and creating airstrips for recreational access.

It was announced during the conference, that the Wisconsin Airport Management Association created five state chapters to provide networking opportunities to help solve airport connectivity problems. Each chapter is led by an airport director and WAMA board member.

The effort that goes into planning and executing the Wisconsin Aviation Conference, and other state aviation and airport conferences, does not go unrecognized. Each conference requires hundreds of man hours and extensive committee work by its members, and financial support from their exhibitors.

The 2023 Wisconsin Aviation Conference will be September 20-22 in Appleton. Appleton International Airport will host the conference at the Hilton Appleton Paper Valley Hotel. ❑

Full-Depth Pavement Reclamation At Airports….

More Economical, Environmentally Friendlier & Faster Than Total Pavement Reconstruction Methods

Hutchinson Municipal Airport / Butler Field (KHCD)
Hutchinson, Minnesota

When full-depth pavement "reconstruction" isn't financially feasible, and a mill and overlay will only provide a short-term solution, airports often find themselves in a bind.

To minimize disruption of airport operations and keep cost down, Bolton & Menk, an engineering firm with offices in Mankato, Minnesota, and elsewhere in Minnesota, North Dakota, Iowa, North Carolina, and South Carolina, applies the full depth "reclamation" (FDR) process to reconstruct the pavement at airports. FDR is the process of pulverizing the existing thickness of asphalt surfaces and blending it with the underlying aggregate base layer to form a reclaimed asphalt base layer. This layer is then shaped, graded, and compacted with a new asphalt surface paved over it. Bolton & Menk

uses the FDR process to recycle existing materials to provide a high-quality product at substantially lower cost than complete reconstruction methods.

The FDR Process

Step 1: Evaluate the Pavement

- Evaluate the existing asphalt and aggregate based thickness to determine if FDR is the best approach.

Step 2: Reclaim the Existing Pavement

- Pulverize the existing asphalt layer and blend it with the underlying aggregate base layer to create a reclaimed asphalt base layer.

Step 3: Grade, Shape, and Compact The Reclaimed Base Layer

Step 4: Pave New Asphalt Surface Over Reclaimed Base

Why FDR?

Bolton & Menk uses the FDR process to recycle existing materials to provide a high-quality product at a substantially lower cost. The company first worked with the Federal Aviation Administration (FAA) in 2015 to allow utilizing the FDR process on airports before it became officially allowed.

- Using the FDR process reconstructs pavement with a substantially lower construction time and cost, resulting in little downtime for the airport.
- Pavements reconstructed utilizing the FDR process are environmentally friendly by greatly reducing emissions from dump trucks.
- Pavements reconstructed utilizing the FDR process have shown to perform as well as full-depth reconstructed pavements over their 20-year design life.

The History of the FDR Process

- 2015 – FAA allowed the City of Hutchinson, Minnesota to reconstruct Runway 15/33 utilizing the FDR process.
- 2016 – FAA allowed the City of Litchfield, Minnesota to reconstruct Runway 13/31 utilizing the FDR process.
- 2017 – FAA allowed the City of Willmar, Minnesota to reconstruct taxi lanes utilizing the FDR process.
- 2018 – FAA created its own specification for full-depth reclamation.

For more information about the FDR process, contact Silas Palmer at Silas.Palmer@bolton-menk.com (www.bolton-menk.com). ❑

Construction Underway on New $5.4 Million Ground Engine Run-Up Project at St. Louis Downtown Airport

ST. LOUIS, MO/November 1, 2022 – Construction is underway at St. Louis Downtown Airport on a new Ground Engine Run-Up and Compass Calibration Pad that will benefit aircraft maintenance providers and support high-tech aerospace manufacturing jobs. St. Louis Downtown Airport is the busiest general aviation airport in Illinois outside of Chicago, and was named "2020 Reliever Airport of the Year" by the Illinois Department of Transportation's Division of Aeronautics. The airport is located on 1,000 acres in Illinois just across the Mississippi River from downtown St. Louis in Cahokia Heights and Sauget.

The project will improve production safety, reliability, and efficiency, boost airport businesses, and increase global competitiveness for Southwestern Illinois and the State of Illinois. The airport secured $5 million in state funding through the $45 billion Rebuild Illinois Capital Infrastructure Plan Governor J.B. Pritzker signed into law in 2019.

The Ground Engine Run-Up and Compass Calibration Pad project includes new airfield pavement with jet blast deflectors to perform aircraft maintenance tests requiring the operation of an engine at high power on the ground for several minutes generating elevated noise levels. The aircraft maintenance tenants that will utilize this new facility currently conduct more than 500 high-power engine run-up tests a year. They have indicated that the existing locations for such tests are no longer sufficient given the powerful engines of today's modern aircraft, which running at full throttle can cause blast damage more than 1,600 feet away.

The new Engine Run-Up and Compass Calibration Pad will be located 1,850 feet from other parked aircraft and isolated from airport operations. The area will reduce aircraft engine run-up noise by more than 50% and will accommodate the airport's largest aircraft.

"The Ground Engine Run-Up and Compass Calibration Pad project is necessary to support current and future operations of our key tenants at the airport. It is part of our overall airport infrastructure implementation plan that supports 25 airport tenant manufacturing and aviation operations, ensures tenant leasehold longevity, and supports future airport business growth," said Mary Lamie, Executive Vice President of Multi Modal Enterprises at Bi-State Development. Bi-State Development owns and operates St. Louis Downtown Airport.

Baxmeyer Construction in Waterloo, Illinois, was awarded the contract for the $5.4 million project, with St. Louis Downtown Airport covering the cost above the $5 million IDOT grant. The new Engine Run-Up and Compass Calibration Pad is expected to be completed in less than a year.

"We appreciate the investment by the State of Illinois for this important project and are confident that it will enable us to continue to grow the annual economic impact of the airport," said St. Louis Downtown Airport Director Sandra Shore.

St. Louis Downtown Airport continues to be a significant contributor to the local and state economies. According to the most recent study conducted by the Illinois Department of Transportation (IDOT), St. Louis Downtown Airport contributed more than $422 million in economic impact for the region in 2019, including factors such as on-airport activity and visitor spending. It remains a major employer in the St. Louis area, providing 1,522 full-time and part-time jobs to the region. ❑

$37.7M Taxiway Lima & Bridge Project Underway At MidAmerica St. Louis Airport

MASCOUTAH, ILL. – Work to add nearly 3,100 linear feet of new Taxiway Lima pavement and a new Taxiway Bridge over Crooked Creek is underway at MidAmerica St. Louis Airport (BLV). The $37.7 million project will provide airfield access to a future aviation business park on the south side of the airport, where the new Boeing Production Facility – already under construction – will be the first tenant. The project will also include drainage improvements, a new perimeter security fence, the extension of the existing perimeter road and improvements to the electrical and access control.

Begun in April 2022, the project is funded through grants issued by the Illinois Department of Transportation (IDOT) and Illinois Department of Commerce and Economic Opportunity (DCEO). The work is set to finish by mid-2023 and will ultimately serve to connect the airport to the Boeing Production Facility and other new developments surrounding it.

The new Boeing facility is set to be completed in 2024 and will consist of multiple buildings within a 34-acre campus where Boeing's new unmanned aircraft, the MQ-25, will be assembled. The MQ-25 will use the taxiway to access the MidAmerica St. Louis Airport runway for flight testing and ultimate delivery to the U.S. Navy.

"We expect the new Boeing facility will attract additional aerospace industry companies to this new campus, including those in the airlines, engineering, and technology sectors, and the Taxiway Lima and Taxiway Bridge project will serve them all," said St. Clair County Chairman Mark Kern. "The investments underway will provide hundreds of high paying jobs to St. Clair County and the other surrounding communities in southern Illinois."

The Taxiway Lima project is being completed by Plocher Construction Company of Highland, Illinois. Springfield, Illinois-based Crawford, Murphy & Tilly handled the design work and will be providing construction inspection services.

"The new Lima Taxiway and bridge paves the way for continued expansion here at MidAmerica St. Louis Airport, and this project will help to ensure that Boeing and any other new developments south of the airport have the runway access they need," said Bryan Johnson, director of MidAmerica St. Louis Airport. "When paired with the increases we've been seeing in passenger travel and the investment we are making in our new terminal, it is clear we're proactively preparing for future growth."

MidAmerica St. Louis Airport is located in Mascoutah, Illinois, in the eastern portion of the St. Louis metropolitan area. ❑

Research Reveals Strong Growth In The eVTOL Market

New research from Revolution Aero, which monitors the electric vertical take-off and landing aircraft (eVTOL) sector, reveals the industry has secured over 4,600 orders. It estimates that just over 1,000 of these orders were made pre-2021, around 1,950 in 2021, and there has been approximately 1,650 orders so far in 2022.

Revolution Aero, which hosted a conference on the sector in San Francisco in September, with 250 delegates and 23 sessions from industry leaders, estimates the eVTOL companies EVE, EHANG and Vertical have the largest orders to date with over 1,250, 1,200 and 500 respectively (**https://www.revolution.aero/**).

Revolution Aero's analysis reveals that organizations from 19 countries have made orders for eVTOLs. Over 1,940 orders have come from organizations based in the U.S., followed by 1,000 eVTOLs scheduled to be delivered to Canada. Over 600 are destined for Europe and over 370 to Asia.

Of the eVTOL orders made so far, airlines have accounted for over 1,200, followed by medical operators (around 1,000 orders), lessors (over 700 orders) and helicopter operators (over 500 orders). Organizations from the business aviation, car manufacturing, seaplane and package delivery sectors have also placed orders.

Alasdair Whyte, co-founder, Revolution Aero said: "The global eVTOL market is estimated to be worth around $8.5 billion by 2025, and this is expected to grow to $30.8 billion by 2030." ❑

Bill Lucy and his wife, Cheron, are both licensed pilots and fly this restored Stearman biplane.

Bill Lucy recently moved to Fredericksburg, Texas, where he built a new home and hangar with a 40 by 14-ft Schweiss Doors bifold liftstrap door. He flies a PT-17 Stearman for fun, and when on the job, he pilots a Citation Sovereign jet for NetJets.

Hangar Has Look of Texas Flare!

FAIRFAX, MINN. – Fredericksburg, Texas, in the Hill Country west of Austin and north of San Antonio, might be the next best thing to crossing the Atlantic. The region is lush, colorful and, unlike much of the pancake-flat state, dotted with beautiful green hills that are evocative of Tuscany or the south of France. Towns like Fredericksburg offer a taste of the Old World, with German-style biergartens, schnitzelhauser and a lot of wineries.

That may have been the exact thoughts of Bill Lucy, who recently chose to move to Fredericksburg from Horseshoe Bay, Texas, to build his new home after he built a hangar and an adjacent 1600-foot grass airstrip.

Lucy said he made his decision to purchase a Schweiss bifold liftstrap door after reading a story on the Schweiss Doors website, about old-timer pilot Gene Fuchs of Morgan, Minn., who owns three Schweiss doors.

Once the door arrived, Lucy found the 'yellow book' (instruction manual), and erecting the door went exceptionally well. In fact, it became a frequent phrase when he had a question: 'It's in the book!'"

The bifold liftstrap door on Lucy's hangar measures 40 feet by 14 feet clear, more than adequate to hangar his WWII-vintage Boeing Stearman Model 75 biplane. The bifold door opens and closes quickly and quietly with four strong liftstraps and locks weathertight with the patented auto latch strap system that Schweiss bifold doors are known for.

Lucy's love of flying, which began 43 years ago at Horseshoe Bay, has led him to a career flying mid-size cabin, eight-passenger Citation Sovereign jets for NetJets.

"A college friend gave me his collection of flying magazines and I read every one, cover to cover," Lucy says. "Many of my dates with soon-to-be-wife, Cheron, included watching planes land at KHOU (William P. Hobby Airport). After college, we had the privilege to start flying lessons together. Cheron and I both received our private licenses in 1971. All of our flying was for business and pleasure until I started with NetJets in 2001."

Four bifold liftstraps and a Schweiss Doors autolatch system open and lock the door weather tight.

Lucy's new 85 by 40 ft steel red and white hangar stands out like the colorful wildflowers that emblazon the hills around Fredericksburg. Their adjacent ranch home was designed and built by his son, Travis, who is an architect with Bercy Chen Architects of Austin, Texas. The home is contemporary and complements the ranch setting.

"The design for the hangar started with our desire for it to include a bunkhouse for grandkids, office and workshop," Lucy says. "Cheron picked the color, the red barn-look for our ranch."

Lucy's 1,600-ft grass airstrip breaks at about 800 feet and slopes downhill, he says. "It is fenced to keep the Red Angus cows we raise off the runway when we are flying. When my landings go past 800 feet, they are really going downhill fast. I can leap tall buildings in a single landing."

Schweiss Doors is the premier manufacturer of hydraulic and bifold liftstrap doors (www.bifold.com). ❑

Breezy Point Aviation Days 2023!

Photos by Dale Zoerb

BREEZY POINT, MINNESOTA – One of Minnesota's premier recreational airports, Breezy Point Airport - Muller Field (8MN3), will host its 8th Annual Breezy Point Aviation Day fly-in, Saturday, May 6, 2023, from 10:00 am to 2:00 pm. Besides great food and pilot camaraderie, there will be aircraft displays and a classic car show.

NOTAM: Breezy Point is a private airport… Pilots MUST call ahead for permission to land, and view the airport's pilot briefing video at www.breezypointairport.com BEFORE landing. CTAF 122.9 Mhz. For more information, call Cliff Muller, the airport manager at **218-838-3434**.

This fly-in is completely free, including the food and drinks, and there are no parking or landing fees. Over 1,200 people showed up to see the airplanes and classic cars on display this past year.

The history of Breezy Point Airport – Muller Field.

Breezy Point Resort bought farmland in 1964 and built the 2576 X 50 ft. paved, unlit runway (17/35) that exists today. Since then, an asphalt parking area was built on the east side, midfield.

The resort retained ownership of the airport over the years, even though the ownership of the resort changed. The airport and the resort finally parted company in 1980, when Hopkins House Breezy Point Co. which bought the resort in 1968, sold the airport to a group of pilots and Breezy Point Airport, Inc. was founded. Most of the adjacent properties, hangars and residences along the runway are deeded to private owners.

The airport is private and operated by its shareholders. Flight operations are limited to its members and their guests. Pilots who fly in for the fly-in are required to preregister in advance at **https://www.breezypointairport.com/** and receive a briefing.

The mission of Breezy Point Airport – Muller Field is to further the enjoyment of general aviation by providing an airport that is safe and valuable to the community. The airport is located 12 miles north of Brainerd Lakes Regional Airport, northwest of Pelican Lake.

The Breezy Point Airport Preservation Group is an affiliated group of aviation enthusiasts dedicated to preserving the property as an active airport. The group supports growth in the number of pilots who use the airport and who become shareholders in the airport corporation.

For more information, contact the airport manager, **Cliff Muller**, at **218-838-3434**. ❑

The Promotion of An Airpark Named Waunakee

In the mid-1940s, the son of a Waunakee, Wisconsin farmer looked to the skies above his father's open fields and found inspiration.

A curiosity blossomed into a passion, and soon after taking flying lessons at nearby Morey Field (C29) in Middleton, Wisconsin, Jerome Ripp purchased his own airplane and convinced his father to allow him to mow a small strip of pasture for a runway, and Waunakee Airpark (6P3) was born.

Jerome Ripp's family farm was located just outside the village limits at the time of the airpark's conception, which allowed Jerome the freedom to build a hangar for his own airplane. After the construction of his hangar, local pilots and friends took notice, and Jerome's airpark vision grew. Soon, the Ripps were selling land along the small runway to fellow pilots for home sites. Today, more than 70 years later, the Waunakee Airpark is flanked by some 60 homes and 41 hangars.

Waunakee Airpark LLC

In 2005, Jerome and his wife, Dolores, entered their 80s, and were receptive to passing along the responsibilities of owning and maintaining the airpark to the next generation. A group of 24 aviation enthusiasts consisting of families and individuals living along the airpark formed a Limited Liability Company to purchase the airpark. Waunakee Airpark LLC is intent on keeping the airpark as a vital part of the community.

Although the airpark is privately owned, it is available for appropriate public use. Beyond hobby flying, the airpark has been used as a delivery site for repair parts for manufacturing and agriculture, as a destination for executives meeting with local industries, flight training, a training ground for Air National Guard helicopters, and as a safe, secure landing spot for UW MedFlight helicopter operations. The airpark continues to be a unique and beneficial asset to the community.

Waunakee Airport & Pilots Association

The Waunakee Airport & Pilots Association (WAPA) formed in 1979 as the airpark continued to grow. The organization provides a social atmosphere for local pilots and aviation enthusiasts, and also assumed some airpark maintenance responsibilities.

Annual Pancake Breakfast

A long-standing tradition of the Waunakee Airpark is an annual community breakfast hosted each summer. First held in 1960, this family-friendly event invites Waunakee residents, as well as a larger community of aviation enthusiasts from across the state, to the small airpark tucked inside the village. Waunakee pilots and airpark residents make and serve pancakes, eggs, and sausage to hungry guests, all the while sharing their knowledge and passion for small aircraft and flying!

Promotional Website & Video

The airpark has a website and promotional video at www.waunakeeairport.com (https://www.youtube.com/watch?v=_0TfsupRd2Q). ❑

Chicago Executive Airport's Customs Facility Recognized By American Association of Airport Executives

WHEELING, ILL. – Chicago Executive Airport (KPWK) has been recognized by the American Association of Airport Executives (AAAE) for its Customs and Border Protection (CBP) facility, which has been named the 2022 General Aviation Airport Architectural Project of the Year.

"Among Chicagoland general aviation airports, KPWK is the destination for international travelers," said D. Court Harris, chairman of the airport's board of directors. "Our stand-alone facility compliments the multiple FBOs operating at KPWK. The option between Atlantic Aviation, Hawthorne Global Aviation Services and Signature Flight Support

gives our customers the flexibility to shop for prices at three locations, while providing first-class amenities no matter the choice."

Designed by 845 Design Group, the 3,400 sq. ft. facility opened in October 2021 and includes modern passenger processing areas and an advanced working environment for CBP officers. The secure processing and detention areas also supplement advanced Department of Homeland Security operational support and IT equipment.

In addition to KPWK and CPB, the Federal Aviation Administration, Department of Homeland Security, the Village of Wheeling, and the City of Prospect Heights each had design input on the project.

"Our facility handles more international traffic per year than all other Chicagoland general aviation airports combined," said Jeff Miller, KPWK's executive director. "This CBP facility was designed with those modern passengers in mind and furthers commitment to continually invest in our infrastructure and customer experience. We're grateful for AAAE's recognition of this investment not only in our customers, but the future of KPWK."

Since January 2019, KPWK has cleared 1,392 international flights from 586 airports in 41 countries from nearly every continent. At press time, calendar year 2022 is on pace to have 516 aircraft operations with an average of 43 clearances a month.

Chicago Executive Airport is the premier general aviation destination in the Chicago area and the top reliever for Chicago O'Hare International (KORD), accepting more than 100,000 corporate, charter, and recreational aircraft annually. As a regional economic engine, the airport generates nearly 2,135 jobs, $441 million in annual output and millions of dollars in local and municipal tax revenue. KPWK is jointly owned by the Village of Wheeling and the City of Prospect Heights (**chiexec.com**). ❑

People In The News

Hallstrand Named Director of Lakeland Linder International Airport

LAKELAND, FLA. (September 19, 2022) – Longtime Wisconsin and most recently, Florida, airport manager, Kris Hallstrand, has been named Director of Lakeland Linder International Airport, effective September 18th. Hallstrand has been serving as Interim Director since March 3, 2022, when former Director Gene Conrad accepted the position of President/CEO of the Aerospace Center for Excellence.

Kris Hallstrand

Lakeland City Manager Shawn Sherrouse said, "Kris has proven herself during the six-months she has been serving as Interim Director of Lakeland Linder International Airport, and I feel confident that we have the right person for the job going forward. Kris is very familiar with the responsibilities of the Department and has significant experience in airport operations." He added, "I am extremely pleased that Kris accepted the promotion, and as an organization, we look forward to the next chapter of the airport with Kris in the pilot seat."

Hallstrand said, "I am honored to be given the opportunity to lead Lakeland Linder International Airport as the newly appointed Airport Director. I look forward to working with the airport team and airport tenants to serve the community as an economic engine."

Hallstrand has over 20 years of experience in airport management that includes over 5 years as Assistant Director and Interim Director of Lakeland Linder International Airport. Her experience includes Airport Director at Price County Airport in Phillips, Wisconsin, Superintendent of Maintenance and Operations at Wittman Regional Airport in Oshkosh, Wisconsin, and Operations Manager at Lakeland Linder International Airport. Kris also proudly served in the U.S. Air Force as a C-130 Crew Chief for 14 years and is an Afghan War Veteran. ❑

Wynne Named To NBAA Top 40 Under 40

WASHINGTON, DC, OCT. 14, 2022 – The National Business Aviation Association (NBAA) today announced the 2022 Business Aviation Top 40 Under 40, which recognizes rising leaders who are driving innovation within the industry. Among these people is Alison Wynne, Vice President - Aviation Practice Leader at Brown & Brown of Minneapolis, Minnesota.

"We are honored to recognize this new class of Top 40 Under 40 business aviation professionals," said NBAA President and CEO Ed Bolen. "These rising stars will be the leaders who will drive our industry to grow and move into the future."

This year's fifth annual Top 40 Under 40 list was selected by NBAA's Young Professionals (YoPro) Council, a group of business aviation professionals and NBAA staff liaisons working to build relationships between the industry's emerging leaders.

Alison Wynne

NBAA was founded in 1947 and is based in Washington, DC. NBAA is the leading organization for companies that rely on general aviation aircraft to help make their businesses more efficient, productive and successful. The association represents more than 10,000 company and professional members and provides more than 100 products and services to the business aviation community, including the NBAA Business Aviation Convention & Exhibition (NBAA-BACE), the world's largest civil aviation trade show (NBAA at nbaa.org). ❑

Fatal Accident At Reno

RENO, NEV. – Aaron Hogue, 61, was flying an L-29 jet during the Jet Gold Race at the STIHL National Championship Air Races, September 14-18, 2022, at Reno Stead Airport (KRTS), when it crashed September 18, killing Hogue. After the accident, the remaining air operations were suspended, as were all activities and events which would normally be part of the Sunday night closing awards ceremony.

Aaron Hogue with his L-29 jet.

The accident is under investigation by the National Transportation Safety Board (NTSB) and Federal Aviation Administration (FAA).

Hogue and his brother, Patrick, own Hogue, Inc., a company started by their father and former Los Angeles police officer, Guy Hogue, in 1968. The company manufactures knives, pistol grips and other combat and defense-related gear, and is now located in Henderson, Nev.

The 2023 STIHL National Championship Air Races will be held September 13-17, 2023. ❑

Longtime Thunderbird Aviation Customer Receives Wright Brothers Master Pilot Award

EDEN PRAIRIE, MINN. – Thunderbird Aviation hosted an award ceremony recently at their facility at Flying Cloud Airport in Eden Prairie, Minnesota, to honor longtime customer, James (Jim) Gaasedelen, with the Wright Brothers Master Pilot Award for achieving over 50 years of accident-free flying. The award was presented by the Federal Aviation Administration.

The Wright Brothers Master Pilot Award is the most prestigious award the FAA issues to pilots certified under Title 14 of the Code of Federal Regulations (14 CFR) Part 61. A distinctive certificate and lapel pin, and the airman's Blue-Ribbon package, is issued after application review and eligibility requirements have been met. Upon request, a stickpin similar in design to the lapel pin, is also presented to the award recipient's spouse in recognition of his or her support of the recipient's aviation career. Once the award has been issued, the recipient's name, city and state is added to a published "Roll of Honor" located at **https://www.faasafety.gov/content/MasterPilot/RecipientList.aspx**."

The founder of Thunderbird Aviation, Al Grazzini, was inducted into the Minnesota Aviation Hall of Fame. His daughter, Nancy Grazzini Olson, now operates the business, which is celebrating its 60th year in business in 2022.

Gaasedelen started flying in 1967 and soloed in four different airplanes on his 16th birthday at Thunderbird Aviation on a very cold day in December of 1968. Temperatures well below zero and heavy winds with blowing snow and poor visibility forced the closing of the airport after his solo flight. Gaasedelen went on to obtain his private pilot certificate, commercial pilot certificate, instrument rating, single-engine seaplane rating, multi-engine rating, flight instructor rating, instrument flight instructor rating, and multi-engine flight instructor rating. In addition, Gaasedelen is a small, unmanned aircraft system (drone) pilot and an instrument ground instructor. Gaasedelen is a dentist who retired after 40 years in practice in the Twin Cities. ❑

Tomblin Named 2023 Wichita Aero Club Trophy Recipient

WICHITA, KAN. – The Wichita Aero Club (WAC) has announced that Dr. John Tomblin the recipient of its trophy. Tomblin is Senior Vice President, Industry and Defense Programs; Executive Director, National Institute for Aviation Research (NIAR); and a Sam Bloomfield Distinguished Professor of Aerospace Engineering for Wichita State University (WSU). WAC will celebrate Dr. Tomblin at its annual trophy gala in January 2023.

Tomblin, through his innovative efforts with WSU-NIAR, has placed the City of Wichita on top of an international map of aviation research, engineering, and development.

Prior WAC Trophy recipients include:

- 2021: Ron Ryan, Pilot, Airline Founder and Philanthropist
- 2019: Jack Pelton, Experimental Aircraft Association CEO
- 2018: Lynn Nichols & Yingling Aviation
- 2017: Paul Bowen, Aviation Photographer
- 2016: Doc's Friends Restoration Team
- 2015: Al Higdon, Co-Founder of Sullivan Higdon & Sink Advertising
- 2014: Russell W. Meyer, Jr. Chairman Emeritus, Cessna Aircraft Company
- 2013: John O'Leary & Airbus Americas Engineering
- 2012: Jeff Turner, Spirit AeroSystems CEO
- 2011: Velma Wallace

The Wichita Aero Club was established in 2008 to foster and promote interest in aviation, to provide a forum that focuses on the industry's issues and achievements, and to bring together those with a passion for flight in an environment that expands and enhances professional relationships and furthers cooperation and understanding (**wichitaaero.club**). ❑

Inductees Selected For Minnesota Aviation Hall of Fame 2023


Walter Fricke


Robert D. Hodge


Barbara Mack


John J. Parker


Randall L. Sohn


Robert D. Wiplinger

BLOOMINGTON, MINN. – The Board of Directors of the Minnesota Aviation Hall of Fame (MAHOF) is proud to announce the names of six people who had highly impressive aviation careers to be inducted into the Hall of Fame during its annual banquet in 2023. Honorees will include the following:

WALTER FRICKE: Vietnam veteran. He created the Veterans Airlift Command, and he also organizes formation flights for veteran funerals.

ROBERT D. HODGE: WWII veteran and game warden pilot, with an extensive career with the Minnesota Department of Natural Resources.

BARBARA MACK: Renowned Minnesota flight instructor, FAA designated aviation examiner, and the holder of a multitude of type ratings.

JOHN J. PARKER: WWII combat veteran with a distinguished career with the Minnesota Department of Natural Resources as a game warden pilot.

RANDALL L. SOHN: An Air National Guard and North Central Airlines pilot, who was pivotal in establishing the Southern Minnesota Wing of the Commemorative Air Force.

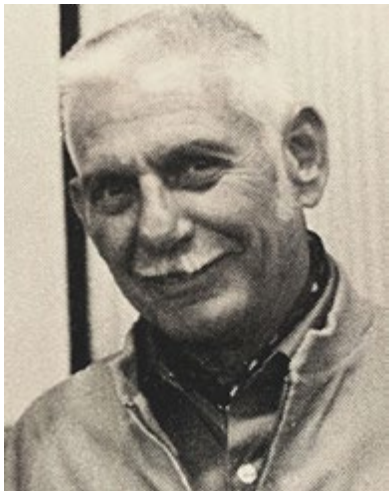
ROBERT D. WIPLINGER: Minnesota aviation businessman and manufacturer of Wipline floats, and creator of the FireBoss aircraft used in firefighting.

Details for the banquet will be posted on the Minnesota Aviation Hall of Fame website at **mahof.org** ❑

EAA Honors Five Individuals For Major Contributions To Aviation

OSHKOSH, WIS. – Five individuals who contributed greatly to recreational aviation were honored November 10, 2022, when they were inducted into the EAA Sport Aviation Halls of Fame at the EAA Aviation Center in Oshkosh, Wis.

The 2022 inductees include:



International Aerobatic Club Hall of Fame
Maurice Hunter "Pappy" Spinks (posthumous)

Maurice Hunter "Pappy" Spinks (1906-1982) was the president of the Aerobatic Club of America, an active competitor, and the sponsor of the U.S. National Aerobatic Championships from 1967 to 1971 at Oak Grove Airport in Texas that he founded. Moving the championship to Oak Grove from Reno, Nevada, where it was sandwiched in between air races, brought skilled aerobatic legends such as Pancho Barnes, Alan Bean, Charlie Hillard, and Harold Krier to the competition. Spinks also helped draft some of the first rules for aerobatic contests prior to the IAC's formation in 1970 and was a major supporter of the 1970 U.S. Unlimited Aerobatic Team.

Warbirds of America Hall of Fame
Tom Reilly of Douglas, Georgia

Tom Reilly's (EAA 802376) flying and restoration accomplishments are legendary within the warbirds community. He has more than 5,500 hours as pilot-in-command, primarily in warbird aircraft, with more than 2,600 hours in North American B-25 bombers including his own B-25 named "Killer B." Reilly has also instructed more than 20 pilots through their B-25 ratings. Reilly is equally as renowned for his restoration work on more than 20 warbird and vintage aircraft. The crown jewel of those restorations was the recent completion of the rare North American XP-82 Twin Mustang, which earned Grand Champion honors at EAA AirVenture Oshkosh and the SUN N' FUN Aerospace Expo in 2019, as well as the Golden Wrench and Phoenix awards at Oshkosh that year.

EAA Homebuilders Hall of Fame
Budd Davisson of Phoenix, Arizona

Renowned pilot/instructor/writer, Budd Davisson of Phoenix, Arizona, was inducted into the EAA Homebuilders Hall of Fame. Davisson is known worldwide for his extensive writings on homebuilt aircraft, aerobatic flight, and aviation safety.

Davisson, a native of Seward, Nebraska, received a degree in aerospace engineering from the University of Oklahoma, where in 1965 he used the Thorp T-18 as the class subject in structural analysis. John Thorp then recommended him for a job in California, where Davisson experienced his first homebuilt flight in Bill Warwick's 180-hp T-18, the first Thorp aircraft flying.

In 1966, while in college, Davisson attended his first of 53 EAA conventions by hitchhiking from Oklahoma to Rockford, Illinois, then the site of the EAA fly-in. Today, nearly 7,500 of Davisson's 10,500 hours were flown while giving instruction in a Pitts aerobatic biplane. Davisson remains a CFII/MEL in the Pitts and is also type rated in the B-25 and P-38.

Davisson's 1969 monthly column for *Air Progress*

magazine, was the first of nearly 4,000 articles he wrote. Approximately half of his nearly 300 pilot reports have been on experimental amateur-built aircraft, and EAA has published nearly 400 of his articles, beginning in the late 1960s. Those writings range from welding to selecting designs, along with his monthly homebuilt "Shop Talk" column. Additionally, Davisson has averaged a forum presentation each day since the 1990s at EAA AirVenture Oshkosh, most covering homebuilt subjects.

EAA Ultralights Hall of Fame
Gene "Bever" Borne of Reserve, Louisiana

Gene "Bever" Borne's (EAA 155256) involvement with ultralights started in 1976, just as the ultralight movement was emerging, with a foot-launched, motorized Quicksilver hang glider. After acquiring most of the U.S. Hang Gliding Association pilot and instructor ratings, he became an instructor and eventually developed a solo training system. In the early 1980s, Borne was active in the formation of the Federal Aviation Administration's Part 103 ultralight regulations, which celebrated their 40th anniversary in 2022. Some 20 years later, Borne also participated in the creation of the FAA's sport pilot/light-sport aircraft regulations.

Vintage Aircraft Association Hall of Fame
Forrest Lovley of Jordan, Minnesota

Forrest Lovley of Jordan, Minnesota, who has more than a half-century of aircraft restoration and building experience, was inducted into the Vintage Aircraft Association Hall of Fame.

Lovley has had a lifelong passion for vintage aircraft and learned to fly while in high school. After graduating, he flew solo from Minneapolis to Maine and returned in a Model A-powered Pietenpol Air Camper, which was built in 1933, some 30 years earlier. Following service in the U.S. Army Airborne Corps, Lovley returned to Minnesota to raise a family and restore antique airplanes.

Among the more than 15 vintage aircraft Lovley has restored are vintage Waco and Pietenpol aircraft. In addition, his award-winning restorations included an original Model-A Pietenpol Sky Scout, equipped with a Chevrolet Vega automobile engine, which received "Best Auto-Powered Homebuilt" at the EAA Fly-In Convention in Oshkosh, Wisconsin in 1972. Five years later, Lovley restored the Kari-Keen Sioux Coupe, one of only 32 of its type ever built, which won the event's 1977 Grand Champion Antique Award. In 1980, Forrest rebuilt the Wittman Big X, a one-of-a-kind aircraft from 1945, designed by legendary air racer and designer, Steve Wittman of Oshkosh, Wisconsin.

Along with his restoration skills, Lovley is renowned throughout the vintage aircraft community for his knowledge of aviation history, as well as aircraft types, engines, and more. That knowledge has served countless aviators who have sought him out for advice and guidance for their own projects.

The EAA Sport Aviation Halls of Fame were established to honor the outstanding achievements of men and women in aviation who share the spirit of EAA and its community. Those inducted are selected by their peers for a myriad of contributions made to their respective areas of aviation.

The Experimental Aircraft Association (EAA) is based in Oshkosh, Wisconsin, and embodies The Spirit of Aviation through the world's most engaged community of aviation enthusiasts. EAA's 260,000 members and 900 local chapters enjoy the fun and camaraderie of sharing their passion for flying, building, and restoring recreational aircraft.

In addition, John Mellberg of Menasha, Wisconsin, received the "Henry Kimberly Leadership Award" that recognizes Oshkosh-area residents for volunteer service to EAA. Mellberg is a longtime EAA Aviation Museum docent and volunteer. ❑

The National Aviation Hall of Fame Spirit of Flight Award Presented To Wings of Hope

DAYTON, OHIO – The National Aviation Hall of Fame (NAHF) presented its coveted 2022 Spirit of Flight Award to Wings of Hope in conjunction with the 58th Annual Enshrinement Dinner & Ceremony, September 24, 2022.

Wings of Hope is a global humanitarian organization that saves and changes lives through the power of aviation. Programs and services focus on education outreach, global impact, and U.S. medical transport. As a twice-nominated Nobel Peace Prize nominee, Wings of Hope serves as a force for good in the international community. Sixty years ago, Wings of Hope began its impactful work by sending aircraft to Kenya to deliver vital medical care and supplies. Since then, the organization has continued to grow and increasingly assists people worldwide regardless of political standing, economic status, or religious affiliation.

Wings of Hope relies on a base of volunteer pilots to carry out the group's mission. "The secret ingredient for Wings of Hope is our incredible group of dedicated volunteers," said Wings of Hope President and CEO, Bret Heinrich. "From purchasing to pilots, our volunteers make profound contributions to our mission. I am humbled to accept the Spirit of Flight Award on behalf of our amazing volunteers, staff, board, and most importantly, those we serve."

The NAHF's Spirit of Flight Award serves to recognize organizations that serve a special need of the nation and set high standards for excellence in the utilization of aerospace assets.

"There is no higher calling than to save lives," said NAHF President and CEO Amy Spowart. "To combine that with aviation is extraordinary. The Board of Trustees of the NAHF overwhelmingly and enthusiastically selected Wings of Hope from a list of worthy candidates. What set Wings of Hope apart from the other nominations is not only that they fulfill the criteria of the award, but also exceed it by sharing education grounded in their mission."

NAHF Enshrinee Patty Wagstaff made the nomination of Wings of Hope. Wagstaff said, "I am proud to magnify the message of Wings of Hope. They serve without prejudice and offer lifesaving medical attention around the world. I also support their efforts to inspire the next generation of pilots, especially girls and young women, through their SOAR into STEM educational programming."

Past Spirit of Flight Award recipients includes the WWII-era "Flying Tigers," Commemorative Air Force (CAF), Women Air Force Service Pilots (WASPs), NASA, Experimental Aircraft Association (EAA), and the Boeing Company.

The National Aviation Hall of Fame's 58th Enshrinement ceremony, led by emcee CNN's Pete Muntean, featured the formal installment of the NAHF Enshrinee Classes of 2020 and 2022; (The late) Second Lieutenant Eugene J. Bullard, USAF., (The late) Dr. Maxime "Max" A. Faget, Ms. Joan Sullivan Garrett., (The late) Captain Richard "Dick" F. Gordon, USN, Colonel/Dr. Paul G. Kaminski, USAF (Ret). (The late) Willa Brown, (the late) Joe Clark, Dr. Margaret Hamilton, Dr. Story Musgrave, and (the late) Geraldine "Jerrie" Mock.

For the complete list of Spirit of Flight awardees, see https://nationalaviation.org/spirit-of-flight-award/.

About The National Aviation Hall of Fame

The National Aviation Hall of Fame strives to create a distinctive educational resource that will inspire future generations to appreciate our nation's extraordinary aviation heritage and the men and women who created it.

Founded and based in Dayton, Ohio, the NAHF's Heritage Hall & Education Center is committed to informing the public of American aviation heroes, their accomplishments and their impact. Learn more at www.nationalaviation.org ❑

2023 Minnesota Airports Conference To Take Place In Alexandria

The annual Minnesota Airports Conference will be held April 26 - 28, 2023 at the Arrowwood Resort & Conference Center in Alexandria, Minnesota, and will feature experts in aviation and aerospace. The conference offers educational sessions on airport management and administration, technical topics, safety, professional development, and maintenance operations. It also includes an industry trade show and an awards and recognition program.

Topics may include:

- Infrastructure management and maintenance.
- Wildlife hazard control/vegetation management.
- Redeveloping airports.
- Financial planning. Airport debt vs. upfront investment.
- Legal advice.
- How an airport factors into national emergency response.

Consultants, airport personnel, council members, and others are welcomed to attend.

The conference is sponsored by the Minnesota Council of Airports and the Minnesota Department of Transportation, Office of Aeronautics, and facilitated by the Airport Technical Assistance Program (AirTAP). ❑

Aviation College Launches New Aviation Maintenance Technician Apprenticeship Support Program

Academy College provides a structured approach to traditional On-The-Job training, while alleviating fixed base operators of administrative duties.

BLOOMINGTON, MINNESOTA – Academy College has created a new Aircraft Maintenance Technician Apprenticeship Support Program which offers a unique solution for both businesses and individuals to ensure success of the 30-month aircraft maintenance technician apprenticeship. This new turn-key program supplements an apprentice's on the job training (OJT) with a structured approach that provides support to ensure completion and success, while eliminating the managerial burden on businesses in administering their own apprenticeship programs.

Academy College President Nancy Grazzini-Olson says that traditional aircraft maintenance schools today have long wait lists and maintenance technicians are in high demand. So, to address this concern, Academy College has created an apprenticeship program, whereby students earn as they learn by working side-by-side with experienced certified technicians as apprentices to gain the hands-on experience required to test for the FAA Airframe and Powerplant Certificate.

"The goal is for the apprentice to be 'test ready' at the end of the program," and to remove the administrative pressure from a business to implement the program and test graduates," says Olson.

Features of the program include use of current study materials, virtual seminars, apprentice mentoring, an easy-to-use computer APP for tracking on the job training and self-study progress, and a balanced report card on the overall progress of the apprentice.

Jake Rosholt, Aircraft Maintenance Programs Coordinator for Academy College says, "The challenge we hear from industry is managing the additional workload to properly support an apprentice mechanic. This program is designed to ease the additional workload placed on supervisors and managers when hiring and training uncertificated mechanics."

Loyd's Aviation of Bakersfield, California, became one of the first fixed base operators to use Academy College's aircraft technician apprenticeship support program. Loyd's Ryan Crowl said of the program, "This fills a huge gap in the maintenance, repair, and overhaul (MRO) industry. We see many talented people that would love to be an aircraft mechanic but who cannot afford to take time out from life to attend a traditional school. This program lets us train people in-house in a controlled environment, and simultaneously provides students the ability to make a living while pursuing their career goals."

If you are an FBO or MRO facility looking for a better way of training an apprentice, or an individual considering a career in the highly rewarding aircraft maintenance field, contact **Jake Rosholt** at **Academy College** at **952-851-0066**, **extension 328**.

Academy College also assists veterans having documented aircraft maintenance experience in certain Military Occupational Specialties (MOS). Civilians who have existing experience as an aircraft technician also get credit for prior OJT.

Academy College is a Minnesota accredited college located at 1600 W 82nd St, Bloomington, Minnesota 55431, with associate and bachelor's degree programs in Professional Pilot, Aircraft Dispatch, Aviation Management, Business, Accounting, and IT. For more information visit www.academycollege.edu ❑

Minnesota Trades Group Seeks Scholarship Applicants

The Minnesota Aviation Trades Association (MATA) is sponsoring two $1,000.00 scholarships to be used for flight training at a MATA-member flight school. To apply, applicants should submit a 200-word essay describing their background, and goals and aspirations in aviation, to the MATA Scholarship Committee, c/o Bill Mavencamp via email at billmavencamp@mac.com or mail to **Bill Mavencamp, c/o St. Cloud Aviation, 1545 45th Ave SE, St Cloud MN 56304.**

Applications are due March 1, 2023.

Williams International Makes Generous Donation To AOPA's You Can Fly Program

FREDERICK, MD and PONTIAC, MICH. – The AOPA Foundation has announced a substantial $500,000 donation from Williams International in support of You Can Fly and its innovative High School Aviation STEM Curriculum — helping to ensure a healthy future for aviation and aerospace.

The generous gift will enable You Can Fly to further introduce high school students to rewarding career opportunities in aviation through its free STEM curriculum, which has already opened doors and minds for tens of thousands of young people across the country.

"AOPA is grateful for Williams International's support. We have a shared interest in building general aviation and making flying viable for generations to come," said AOPA President Mark Baker. "AOPA and Williams International are always at the forefront of what's next for aviation, and the generosity of partners like Williams makes the AOPA Foundation's You Can Fly initiative and its tremendous impact possible."

Williams International CEO Gregg Williams announced the gift and said that he is living proof that teaching our youth about aviation can spark a lifelong passion, a terrific career, and the ability to make an impact.

"We have always been a leader in advancing education through a combination of apprenticeships, our internal education program, the aviation industry's best rotational engineering program, and our WINGS flight training program. This donation to You Can Fly supports this vision, as it's a significant step to help high school students get a head start in careers in aviation," Williams said.

Launched nationwide during the 2017–2018 school year, the You Can Fly High School Aviation STEM Curriculum is developed and continually enhanced by an expert team composed of veteran teachers, curriculum professionals, pilots, and flight instructors. The courses are designed to capture the imagination and give students from diverse backgrounds the tools to pursue advanced education and careers in aviation and other STEM-related fields. The curriculum, video-based professional development, and ongoing teacher and program support are provided to schools free of charge!

In the current school year, more than 14,000 students are enrolled in 44 states – in all four high school grades. The initiative directly supports AOPA's goal to increase inclusion in aviation. AOPA is proud that 40 percent of students in the program come from minority backgrounds, 21 percent are female, and 54 percent attend mid-to-high poverty schools. The program recently celebrated its first graduates, 58 percent of whom reported that they plan to pursue aviation-related careers in fields such as piloting, aerospace engineering, and maintenance.

Since its launch, the initiative is making tangible strides in addressing a well-documented and looming aviation workforce shortage in the United States. The latest Boeing report suggests a need for 612,000 new pilots and 626,000 new maintenance technicians over the next 20 years.

The High School Aviation STEM Curriculum is one pillar of You Can Fly, whose mission is to get more pilots in the skies and keep them there safely. You Can Fly also supports the development of flying clubs to keep flying accessible and affordable; encourages best practices in flight training; and helps lapsed pilots to get back in the air.

The You Can Fly program is funded by charitable donations to the AOPA Foundation, a 501(c)(3) organization. To be a part of the solution, visit **www.aopafoundation.org/donate**.

Headquartered in Pontiac, Michigan, Williams International is the world leader in the design, manufacturing and support of gas turbine engines. In addition to its world-class reputation for customer support, Williams is also well known for establishing the most highly integrated and automated manufacturing facilities in the world to support high-quality, high-volume production of its rapidly growing family of commercial and military products. Ingot and other raw materials enter one end of these facilities and finished engines exit the other. For more information about the company, its products, and support, visit **www.williams-int.com**. ❑

Kansas State University Salina Aerospace & Technology Receives $10 Million Gift

SALINA, KAN. – Kansas State University Salina Aerospace and Technology Campus is launching a revitalization plan for its aerospace teaching and research facilities thanks to the support of California-based company General Atomics Aeronautical Systems. The company's $10 million gift marks the largest corporate gift to an academic program in Kansas State University's history. With the General Atomics gift, K-State Salina will create the General Atomics Aerospace Innovation Ramp, a first in the campus's aerospace history. The innovation ramp will encompass the southernmost portion of the K-State Salina campus and transform its footprint, revitalizing land that was home to the former Schilling Air Force Base. It will also enhance the campus's learning environment to meet the needs of the ever-changing aerospace industry. ❑

Indiana Seaplane Pilots Association 20th Anniversary Splash-In

by Randy Strebig

Indiana Seaplane Pilots Association, President/Indiana Field Director SP

The 20th Annual Indiana Seaplane Pilots Association "Splash-In," September 23-25, 2022, on Lake James at the Pokagon State Park, in Angola Indiana, was a huge success and enjoyed by all. The Midwest weather did deteriorate as the weekend progressed as forecasted, which kept many pilots and their aircraft stuck at home. Yet those who made it while the weather held at the start of the weekend were not disappointed by the activities, and all found the right window to return home on Sunday. As always, the pilots put on a great show and the volunteers are second to none, resulting in a hugely successful weekend of flying and good times!

Once again, the splash-in enjoyed a 100% safety record and a lot of smiles from the pilots and guests. There were 14 aircraft that flew in from throughout the Midwest.

The announcer for the Saturday reunion banquet, Jakob McKenney, entertained everyone as a walking Wikipedia of all things airplanes. Randy Rhodes and his daughter Sara, along with Scott Millard, handled the Friday and Saturday aircraft operations at the park seamlessly, all from the association's new control tower, donated by Bob Magley.

The Friday evening barbecue and bonfire at my airport on the other side of the lake went well. Once again, the local Land of Lakes Lions Club prepared the evening meal and dropped three loads of skydivers on the grass strip (myself-included) from our Maule on floats, flown by Allison Wheaton. Matt Perry in his Cessna 172 on floats and the Air Indiana Cessna 182 jump plane dropped seven skydivers in all for a great show!

Saturday morning began with a poker run organized by Matt Perry and Rick Rumple, which included a spot landing contest at the arrival of the fourth stop. A total of 18 hands played in the poker run and all who attended had a great time.

No doubt some friendly competition at the spot landing contest, resulting in the first-place win going to Jerry Ness, the runner up to Rick Rumple, and an honorable mention to Chuck Marshall, as he may or may not have played by the rules. The winner with three 9's was Ryan Lee in his J-3 Cub, and how fitting as the prize for the best hand was a neon J-3 Cub sign.

Other activities during the day on Saturday included participation in many of the events that were taking place

in the State Park, and Allison Wheaton had an open house at her horse farm where participants got to meet her horses, donkeys, goats, sheep, pot belly pigs and chickens.

Everyone participated in the Saturday evening banquet at the Potawatomi Inn, where they enjoyed an excellent meal and beverages, and award presentations. Grace Willig showed a picture history of nearly all 20 years of the splash-in.

Special thanks go to the Lake James Association, Steuben County Visitors and Tourism Bureau, Herald Republican, Indiana Department of Natural Resources, State Parks Administration, and the staff of Pokagon State Park, with leadership from manager, Ted Bohman, who was on duty for the event. Potawatomi Inn Manager Emily Burris and staff attended to the group's needs. ❑

5G and Aviation Safety

The FAA is working to ensure that radio signals from newly activated wireless telecommunications systems can coexist safely with flight operations in the United States, with input from the aviation sector and telecommunications industry.

Safety is the FAA's mission, and it guides all of its decisions. In the United States, 5G services launched in 46 markets on January 19, 2022, using frequencies in a radio spectrum called the C-band. These frequencies can be close to those used by radio altimeters, an important piece of safety equipment in aircraft. To make sure that this does not lead to hazardous interference, the FAA requires that radio altimeters are accurate and reliable.

Disruption Risk to Aviation from 5G: Because the proposed 5G deployment involves a new combination of power levels, frequencies, proximity to flight operations, and other factors, the FAA must impose restrictions on flight operations using certain types of radio altimeter equipment close to antennas in 5G networks.

These safety restrictions could affect flight schedules and operations. The FAA continues to work every day to reduce effects of this disruption as the agency makes progress to safely integrate 5G and aviation.

Collaborative Work Underway To Reduce Delay, Cancellation Risk Progress during the January 5-18, 2022, deployment delay. During that time, the FAA:

- Received vital 5G transmitter location and power level information from the wireless companies.
- Facilitated data sharing between avionics manufacturers and wireless companies.
- Worked with airlines to help manage and minimize potential delays and cancellations in affected areas.
- Determined that some GPS-guided approaches may be used at certain airports.
- Educated aviation stakeholders.
- Worked with airlines on how they can demonstrate altimeters are safe and reliable in certain 5G C-band environments. This is known as the Alternative Method of Compliance (AMOC) process.

Questions & Answers

I've heard about 5G already being deployed in other countries, such as France and Japan, with no issues. Why would the U.S. be different?

The U.S. airspace is the most complex in the world, and the FAA holds itself and the aviation sector to the highest safety standards. Deployments of 5G technology in other countries often involve different conditions than those proposed for the U.S., including:

- Lower power levels.
- Antennas adjusted to reduce potential interference to flights.
- Different placement of antennas relative to airfields.
- Frequencies with a different proximity to frequencies used by aviation.
- The FAA says 5G "may" cause interference. So how do we know there's a safety risk?
- Aviation in the U.S. is the safest in the world. That's because we rely on data to mitigate risk, and never assume that a piece of equipment or a given flight scenario is safe until this can be demonstrated. If there's the possibility of a risk to the flying public, we are obligated to restrict the relevant flight activity until we can prove it is safe.

Why does an aircraft still need an approved altimeter if there is a bigger buffer now around airports?

The FAA is working with manufacturers to determine which altimeters are accurate and reliable in the U.S. 5G deployment. The agency continues to review manufacturer testing data to determine how robust each model is.

Why haven't the NOTAMs gone away?

The wireless companies' actions reduce the amount of 5G around airports, but do not fully eliminate it. The NOTAMs let pilots and others know that there is 5G present. Any restrictions in a NOTAM do not apply if an aircraft has an approved altimeter to operate. Since some aircraft still do not have an approved altimeter, the restrictions outlined in the NOTAM still apply.

Why are we only hearing about this now?

The FAA, the aviation industry, telecommunications companies, and their regulators, have been discussing and weighing these interference concerns for years, in the U.S. and internationally. Recent dialogue has helped to establish information sharing between aviation and telecommunications sectors and newly agreed measures to reduce the risk of disruption, but these issues are ongoing and will not be resolved overnight. ❑

Calendar

Email your calendar items to: dave@midwestflyer.com – Or Mail To – Midwest Flyer Magazine, 6031 Lawry Court, Oregon, WI 53575
Include the DATE, TIMES, LOCATION (Include City, State & Airport Name & I.D.), and CONTACT PERSON'S TELEPHONE NUMBER, as well as that person's email address for reference. First 15 words FREE $.75 for each additonal word.
NOTAM: Pilots, be sure to call events in advance to confirm dates and for traffic advisories and NOTAMs.
Also, use only current aeronautical charts, etc. for navigation and not calendar listing information.
Midwest Flyer Magazine is not responsible for accuracy of, or reliance on, any information published.
*Indicates any new or updated calendar listings since the previous issue.

FEBRUARY 2023

7-8* Des Moinies, Iowa. - Midwest Regional Aircraft Maintenance Seminar at Holiday Inn at the airport. iaaviation.com

25* Fond du Lac, Wis. - Wisconsin Aviation Maintenance & IA Refresher Conference at the Radisson Hotel & Conference Center, 625 W Rolling Meadows Dr. levi.eastlick@dot.wi.gov 608-267-5018 wisconsindot.gov/Pages/doing-bus/aeronautics/trng-evnts/mech-ia.aspx

MARCH 2023

5-7* Bismarck, N.D. - North Dakota Aviation Association Fly-ND Conference at Bismarck Hotel with Breakout Sessions for Pilots, Mechanics, Aerial Applicators, and Airport Operators. www.fly-nd.com/events/Conference

13-14* Brooklyn Center, Minn. - 2023 Minnesota Aviation Maintenance Technician & IA Renewal Conference at the Heritage Center, 6155 Earle Brown Drive. darlene.dahlseide@state.mn.us

18* Aitkin, Minn. - Ski Plane & Wheels Fly-in at Aitkin Municipal Airport - Steve Kurtz Field. Ski planes and wheels welcomed to a no-charge chili feed and hot dogs fly-in sponsored by EAA Chapter 965, Aitkin Flyers. trudiamundson@yahoo.com

27-4/1* Lakeland, Fl - Sun N Fun Aerospace Expo. flysnf.org

29-30* Deadwood, S.D. - South Dakota Airports Conference at The Lodge at Deadwood, 100 Pine Crest Lane. **Contact NancyHiller at** 605-773-4430 **or email** Nancy.Hiller@state.sd.us dot.sd.gov/transportation/aviation/airport-conference

APRIL 2023

26-28* Alexandria, Minn. - Minnesota Airports Conference at the Arrowwood Resort & Conference Center.

MAY 2023

2-4* Hartford, Conn. - NBAA Maintenance Conference at the Connecticut Convention Center. nbaa.org/events/2023-nbaa-maintenance-conference

6* Breezy Point, Minn. - 8th Annual Breezy Point Aviation Day. Aircraft Display & Classic Car Show.Call 218-838-3434. Pilots must register online: breezypointairport.com

13-14* Belleville, Ill. - Scott AFB Air Show. scott.af.mil/Home/Airshow/

JUNE 2023

16-17* Wausau, Wis. - Wings Over Wausau Airshow. wausauevents.org/wingsoverwausau.html

17-18* Columbus, Ohio - Columbus Ohio Air Show 2023 at Rickenbacker International Airport. columbusairshow.com

24-25* Davenport, Iowa - Quad City Air Show at Davenport Municipal Airport. quadcityairshow.com

24-25* Flint, Mich. - Wings Over Flint 2023 at Bishop International Airport.

26-29* Chicago, Ill. - Aviation Technician Education Council (ATEC). atec-amt.org/annual-conference.html

JULY 2023

1-2* Traverse City, Mich. - National Cherry Festival Air Show featuring the USAF Thunderbirds.

6-9* Muskegon, Mich. - Wings Over Muskegon Air Show 2023. wingsovermuskegon.com

8* Goshen, Ind. - American's Freedom Fest. americasfreedomfest.net

15-16* Duluth, Minn. - Duluth Air & Aviation Expo at the Duluth International Airport featuring the Blue Angels. duluthairshow.com

24-30* Oshkosh, Wis. - AirVenture 2023. eaa.org/airventure

22-23* Milwaukee, Wis. - Milwaukee Air & Water Show at Bradford Beach Lakefront featuring the Blue Angels. mkeairwatershow.com

22-23* Dayton, Ohio - Dayton Air Show. daytonairshow.com

29-30* Sioux Falls, SD - Sioux Falls Airshow - South Dakota ANG at Joe Foss Field. siouxfallsairshow.com

AUGUST 2023

5-10* Miminiska Lodge, Ontario (CPS5) - Canada Fishing Fly-Out. Arrive on the 5th and depart on the 10th. (5 nights/4 days). Call or Email Krista for rates and availability: 1-888-465-3474 or krista.cheeseman@wildernessnorth.com

6-10* Miminiska Lodge, Ontario (CPS5) - Canada Fishing Fly-Out. Arrive on the 6th and depart on the 10th. (4 nights/3 days). Call or Email Krista for rates and availability: 1-888-465-3474 or krista.cheeseman@wildernessnorth.com

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12-13* Ypsilanti, Mich. - Thunder Over Michigan at Willow Run Airport. yankeeairmuseum.org/airshow

13* Waterford, Mich. - OCIA Air Show & Open House at Oakland County International Airport. oakgov.com/aviation/news-events/Pages/default.aspx

19-20* Gardner, Kan. - Kansas City Air Show featuring the Blue Angels. kcairshow.org

19-20* Chicago, Ill. - Chicago Air & Water Show at Lake Michigan Lakefront.

26-27* Lincoln, Neb. - Lincoln NE Air Show featuring the Blue Angels. lincolnairshow.com

28-29* Greenfield, Ind. - Indianapolis Crossroads Air Show 2023 featuring the Blue Angels. crossroadsbsa.org/activitiesandevents/crossroads-air-show

SEPTEMBER 2023

2-4* Cleveland, Ohio - Cleveland National Air Show at Burke Lakefront Airport. clevelandairshow.com

9* Osceola, Wis. - Osceola Wheels & Wings at L.O. Simenstad Municipal Airport. wheelsandwings.org

20-22* Appleton, Wis. - Wisconsin Aviation Conference hosted by Appleton International Airport at Hilton Appleton Paper Valley Hotel. wiama.org

OCTOBER 2023

17-19* Las Vegas, Nev. - NBAA Business Aviation Convention & Exhibition. nbaa.org

To get more dates, locations and times for *The Flying Hamburger Socials* and other aviation events in the Midwest, go to http://www.moonlightflight.com/flysocial/index.html

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Cubcrafters Achieves Securities & Exchange Commission Qualification

Company Moves Forward with Public Offering

YAKIMA, WASH. – CubCrafters, the leading designer and manufacturer of Light-Sport, Experimental, and Part 23 Certified backcountry aircraft, announced November 15, 2022, it has been qualified by the Securities Exchange Commission [SEC] to make a $50 million public stock offering using the Regulation A+ exemption, which allows for the first outside investment ever in the history of the company.

Advised by Manhattan Street Capital, CubCrafters intends to raise up to $50 million in investment capital from its fans, customers, aviation enthusiasts, the investment community, and the general public. The offering price for first-round investors is $5 per share, with a minimum investment of $400.00 per investor. To learn more, go to:

www.manhattanstreetcapital.com/cubcrafters

"We are humbled and excited by the overwhelming interest and investor demand our capital raise received. In just 90 days, we received reservations for more than $25 million of CubCrafters shares," said Patrick Horgan, CubCrafters President and CEO. "This was a great first step in securing the vision of our founder, Jim Richmond, who wanted to give the public an opportunity to participate in the growth of our company. Now that we have been qualified by the SEC, we look forward to welcoming new investors to CubCrafters and working on their behalf to drive long-term shareholder value." The high demand for CubCrafters aircraft has resulted in a more than 2-year backlog of orders. The proceeds of the offering will be used to increase manufacturing capacity and

reduce new aircraft customer delivery times. The company will also make investments in growing its customer support capabilities and accelerating product innovation. All of which will enable the company to expand its reach in the rapidly growing domestic and international markets for both adventure and utility aircraft.

While many U.S.-based general aviation aircraft manufacturers have been sold to foreign entities, CubCrafters intends to remain American owned and operated. The entire line of CubCrafters aircraft is designed and produced in the company's facilities in Yakima, Washington. To keep it that way, CubCrafters is leveraging this Regulation A+ offering to fund growth while keeping the company U.S. based.

"We have invested large amounts of time, energy, and resources to qualify a Reg A+ offering with the SEC," stated Brad Damm, CubCrafters' vice president. "Our brand has grown to be synonymous with an adventure lifestyle that inspires and appeals to people at all levels. We consistently hear from people across many different demographics that want to be a part of what we do, that want to join us on our journey. This offering affords that opportunity to everyone, both from within the aviation community and from the public at large."

"The already significant response from investors, and their large and loyal customer base, is a strong testimonial to CubCrafters' role as an industry leader and to the quality of its product line," added Rod Turner, CEO and founder of Manhattan Street Capital. "I am truly excited to be a part of this capital raise, designed to scale up CubCrafters' future success."

ABOUT CUBCRAFTERS: Founded in 1980 by Jim Richmond, CubCrafters' roots are in the 80-plus-year history of classic grassroots aviation, but the company's products and services are innovative and completely modern. CubCrafters designs and manufactures Experimental, LSA, and Part 23 Certified aircraft. The Carbon Cub family of aircraft redefined expectations for the backcountry flying experience with innovative design, modern materials, powerful engines, and breathtaking performance.

The company's flagship XCub aircraft is offered in both nosewheel and tailwheel configurations, and substantially expands the mission profile of sport utility aircraft with higher speed, longer range, and larger payload. The key to the company's success is its ability to create unique value in the experience of personal adventure aviation (**www.cubcrafters.com**). ❑

Take precautions and follow local and federal laws before landing on frozen lakes this winter.

Brad Thornberg Photo

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