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ON THE COVER: A 1956 Aeronca 7BCM owned by GRF Aviation LLC of Pillager, Minnesota. The aircraft is powered by an 85 hp Continental engine. Top speed: 90 mph. *Brad Thornberg Photo*

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Scholarships & Opportunities Galore!

by Dave Weiman

I have never seen so many scholarships and opportunities for young people and adults to get into aviation careers than there are today. The problem isn't finding a scholarship or job… the problem is finding people with the desire and willingness to take the time to write an essay and/or fill out an application.

I encourage flight schools and aviation colleges to make known to their students the scholarships that are available. Some scholarships have requirements, such as residency in the state in which the sponsoring organization is located, or that the applicant must have at least a Private Pilot Certificate and professional career goals.

We are pleased to see many sponsoring organizations now recognizing the importance of "aircraft technicians," and offering scholarships in aircraft maintenance and avionics. While the demand for commercial pilots is great, so is the demand for licensed technicians.

Just searching articles at **www.midwestflyer.com**, I see scholarships available from state aviation halls of fame, aviation trades associations, and pilot groups.

Some scholarships we have reported on by name include the "Sherm Booen Legacy Scholarship," sponsored by Academy College in Bloomington, Minnesota (**https://www.academycollege.edu**); "Arrowhead Eagles Aviation Scholarship," Grand Marais/County Airport (KCKC), Minnesota; "James C. Ray Aviation Scholarships," sponsored by EAA Chapters; "Edward W. Stimpson Aviation Excellence Award Scholarship," sponsored by the General Aviation Manufacturers Association; and the

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SCHOLARSHIPS FROM PAGE 5

AOPA Foundation's "Flight Training Scholarships."

Other scholarships listed by name include the "Amelia Earhart Memorial Scholarship," "Aviation Education & Career Expo Scholarship," "LeRoy W. Homer Jr. Scholarships," and just announced, the "EAA Aviation Foundation Scholarship" in the name of former EAA President and Chairman, Tom Poberezny.

Other national aviation organizations sponsoring scholarships include the Aircraft Electronics Association, University Aviation Association, the Ninety Nines, Aviation Distributors & Manufacturers Association, Boeing Company, Women In Aviation International, National Business Aviation Association (NBAA), and Aviation Explorers.

Many aircraft manufacturers and airlines have their own scholarship programs, some which are willing to help fund the education of job applicants and their employees, and as reported in the December 2022/ January 2023 issue of *Midwest Flyer Magazine*, there are apprenticeships available at many fixed base operations and flight departments.

Our federal and state aviation agencies list job openings and scholarships, so I encourage you to go to their websites and explore them as well.

And for those of you who would like to leave an aviation legacy of your own, and make a personal contribution to aviation, consider working with an aviation organization and establish a scholarship in your name.

Whatever you do, please get out and show students and others, how they can apply for scholarships, internships, and apprenticeships. The future of our industry depends on attracting new people. ❑

Arguments That Won't Win A Drug Testing Refusal Case

by Gregory J. Reigel, Esq

Greg Reigel

If you are a safety sensitive employee (pilots, mechanics, flight attendants, dispatchers, etc.) working for Part 121 and 135 carriers, a maintenance provider who maintains aircraft on behalf of those carriers, or an operator who conducts non-stop sightseeing flights for compensation or hire under FAR § 91.147, you are all too familiar with your obligation to submit to drug and alcohol testing. You are also probably aware of the severe consequences imposed upon you for failure to submit to a test when requested (termination of employment, revocation of the employee's airman certificates, to name a few).

Unfortunately, successfully defending your rights in a drug testing refusal case is difficult, at best. Refusal cases involve fact-specific inquiries. Over the years airmen have made many arguments in their attempts to fight a certificate action in this situation. However, many of those arguments simply do not carry the day. Here are a few of those arguments and an explanation of why they are typically unsuccessful.

"Violation/Incident-Free History."

Airmen argue that the FAA should take into consideration their lack of violations or incidents to mitigate against the severity of a revocation. Unfortunately, the FAA, and by extension the National Transportation Safety Board (NTSB), view a violation/incident-free history as the status quo. Compliance with the regulations is a minimum requirement and does not mitigate against the sanction for a testing refusal. So, even though you have a "clean" record, that argument won't impact the FAA's or NTSB's decisions in the case.

"The Pilot's Bill of Rights Eliminated The Requirement For NTSB To Defer To FAA."

Before the Pilot's Bill of Rights, 49 U.S.C. 44703(d)(2) provided that the NTSB was "bound by all validly adopted interpretations of laws and regulations

the [FAA] Administrator carries out and of written agency policy guidance available to the public related to sanctions to be imposed under this section unless the Board finds an interpretation is arbitrary, capricious, or otherwise not according to law." The NTSB had, in fact, consistently held that it was bound by the FAA's choice of sanction derived from the Sanction Guidance Table contained in FAA Order 2150.3B.

The Pilot's Bill of Rights expressly eliminated this "bound by" language. The NTSB is no longer bound to simply accept the sanction proposed by the FAA in an enforcement case. Rather, the NTSB is permitted to select what it believes to be the appropriate sanction based upon the facts of the cases and any mitigating or aggravating circumstances.

However, this does not completely remove the deference it must give an administrative agency's interpretation of its regulations and proposed sanctions for violation of those regulations. While the NTSB is no longer required to simply "rubber stamp" the FAA's choice of sanction, it can't ignore the FAA's choice either. Thus, arguing that the NTSB may not in any way defer to the FAA's choice will be unsuccessful.

"Shy Bladder Is Not An Acceptable Excuse."

Unfortunately, "shy bladder syndrome" is not an acceptable medical explanation. Rather, it is a psychological condition that requires prior diagnosis.

The testing regulations contemplate an inability to provide a sufficient sample and specify a process to address that situation. This is commonly referred to as a shy bladder situation.

However, completion of the protocol for addressing a shy bladder situation does not by itself excuse a failure to provide a sufficient sample. A medical explanation (whether physical or psychological) is still required to justify failure to provide a sufficient sample.

"Suspension Rather Than Revocation."

Although FAR 120.11 states that "suspension or revocation" are the appropriate sanctions for a refusal, NTSB precedent, and the FAA's invariable choice of sanction, impose revocation in testing refusal cases. Unfortunately, the FAA completely ignores the "suspension or" language in the regulation, as will the Board unless the airman is able to prove some significant mitigating circumstances.

The FAA and NTSB view a refusal to submit to a drug test as an indication that the individual lacks the necessary qualifications to hold an airman certificate. As a result, while a small handful of cases have imposed the lesser sanction of suspension, it is extremely rare and then only due to significant mitigating circumstances.

Conclusion

Drug testing refusal cases are difficult, but not impossible, to win. If you find yourself in the unenviable position of having to defend yourself against an FAA allegation that you refused to test, I recommend that you carefully consider whether you should assert any of these arguments that both the FAA and NTSB have repeatedly rejected.

Rather, I suggest you focus on other arguments and defenses, if available, including emphasizing any mitigating circumstances that may support a suspension, rather than revocation.

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**). ❑

How Is Your Instrument Scan?

by Michael J. "Mick" Kaufman

Michael Kaufman

We have become so dependent on autopilots in the aircraft we fly, it has become apparent that we have lost many of the skills to hand-fly our aircraft.

Having done a great number of instrument ratings from start to finish in my over 50 years as a flight instructor, I still teach and put a lot of emphasis on the flying basics. In my 10-day instrument training courses, the first four to five days of flying involves developing a good instrument scan.

The trend in instrument training these days is focused on autopilots and "button-ology," when it should start with flying the airplane and developing a good instrument scan. I also see pilots focusing on going to full glass panels versa the six-pack of instruments. By going this route, it is more difficult to develop good hand-flown instrument skills.

As the revolution in aviation training changed to using numeric tapes, rather than conventional instrument pointers, it is apparent and without a doubt that gauges with pointers are far easier to use when hand-flying an aircraft.

Many years ago, when the concept of altitude and speed tapes were thought of for the airlines, a study was done by McDonnell Douglas. Remember the DC-9/DC-10 aircraft of decades ago?

During that study involving a longtime friend of mine, who was a test pilot for McDonnell Douglas and an airline liaison manufacturer, the study showed that speed and altitude tapes were more difficult to hand-fly than gauges with pointers.

A typical panel on an A-36 Bonanza with a six-pack for simplicity, plus a Garmin GI-275 CDI/MFD, GTN-750 GPS/NAV/COM/MFD, and GFC-500 autopilot.

So, why do we see these high-tech tape instruments appearing on so many of our new generation avionics? It is because we have evolved into an autopilot flying aircraft society.

Watching inside cameras in a NASCAR race on TV, we do not see digital speedometers, oil pressure gauges, tachometers, or temperature gauges, do we? In fact, in some cases, the gauge has been rotated in their bezels, so the pointer is pointing straight up when everything is in the desired operating parameters of the car.

Having just completed an instrument rating in a Bonanza with an upgraded Garmin panel, which had two Garmin GTN-650s driving a G-500 TXI, I discovered that my instrument student was struggling with the altitude and airspeed tapes.

Garmin GI-275 CDI/MFD in the flight director mode with airspeed and altitude tapes. This display can be configured with information of the pilot's choosing as shown above.

Unknown to most pilots, you can configure the G-500 TXI to round instruments with pointers replacing the tapes. This can be done in the setup of the display. So that's what we did.

Wow, what a difference this made to the student while learning to hand-fly the aircraft during his initial instrument training. Altitude control went from plus or minus 300 feet to plus or minus 50 feet instantly. There is truth in that study showing that the tapes are more difficult to fly than the pointers of the round gages.

Back in the days of conventional six-pack instruments, I taught scanning patterns to help develop instrument skills. This is still important for hand-flying the airplane. I would tell students as time passes and with practice, that eventually scanning individual instruments will someday become so efficient you will feel that you are scanning the whole instrument panel at the same time.

In recent years with so much information available in many places, pilots have become saturated with so much information that they do not know what to scan. I have written about this phenomenon many times in my column.

I often ask pilots during training or recurrent training what they are looking for as they continuously change screens on their displays. They don't have an answer. If we fly instruments by the numbers when we are inside the final approach fix, our scan can be reduced to just a few instruments. If you are flying a flight director with a Garmin GI-275, I should be able to cover up everything else on the panel and watch you make a perfect hand-flown precision approach.

What information do we need once we have passed the final approach fix?

First, follow the flight director using our controls and ask how low we can go before deciding to land or go missed. Displaying this on the attitude indicator of a Garmin GI-275 in-flight director mode works great, and you can have an altitude tape displayed to show when to go missed. You can even program the decision altitude in the display for an alert should your memory be questionable.

Let's get back to basics. Hand-flying an instrument approach can be so easy, and many pilots make it so difficult. It takes training, practice, and recurrent training to perfect some of these flight skills.

I have become a fan of the Garmin GI-275 and would consider having two of these units in my own airplane. It is a good consideration for a pilot if he is looking at a panel upgrade.

You will have electronic instruments with a bright readable display and backup AHARs should two electrons get crossed with each other. Hand-flying the six pack is easier than tapes, and with a recent bulletin on some failure issues with the Garmin GFC-500 autopilot, having good hand-flying skills is even more important. I will be writing more in my column in ***Midwest Flyer Magazine*** on the Garmin GI-275 and G-5 instruments in future issues. Until then, fly safe!

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**.

Aircraft Battery Care & Maintenance

by Richard Morey


Richard Morey

Winter is upon us. Typically, this involves less flying, and certainly colder weather, both of which are detrimental to an aircraft battery. Rental pilots just want the airplane to start with no issues. So long as the last pilot did not leave the master switch on and drain the battery and the aircraft is warm, all should and generally does go as planned.

But what if the battery is low, and will not crank over the engine?

What if the engine is cold and the pilot tries to start it and runs the battery down?

What if the master was left on overnight and the battery is completely dead?

Aircraft owner/operators have the same problems of course, as well as the responsibility of deciding how to maintain the battery. These cases require different actions, and depending on what is done, have different effects on the longevity and capacity of the battery. Knowing and following the manufacturer's recommendations will maximize the battery life and make for safer flying.

Aircraft batteries are a compromise between weight and capacity. As such they are more fragile than car batteries. For the purposes of this article, lead acid batteries will be discussed. Nickel-cadmium batteries are used in some general aviation applications but are rare and will not be discussed in this article.

Batteries store electricity chemically. A lead acid battery has lead plates suspended in a sulphuric acid water solution, called electrolyte. Electrical energy is created during the chemical reaction between the acid and the lead plates. Sulphuric acid reacting with lead creates lead sulphate bond, and releases electrical energy as part of the reaction. This reaction is reversible by forcing electricity back into the battery which breaks the lead sulphate bond, returning the reactants to lead, water and sulphuric acid.

As with any chemical reaction, cold temperatures slow down the process. A cold battery has less power than a warm one. Heat is generated, both during discharging, and especially during charging. Hydrogen and oxygen gas are released as part of this reaction. To avoid the accumulation of a very combustible mixture of hydrogen and oxygen, charging batteries should be done only in a well-ventilated area.

The slight charging and discharging of the battery is part of the flight. The battery discharges during start up and charges during engine operation if the charging system alternator or generator are working properly. The aircraft charging system is designed for small charging operations, more in the lines of maintaining the battery rather than charging a low battery.

Every time a battery goes through a charge discharge cycle, it loses a bit of its capacity to hold a charge. Over time the lead plates "sulphate up," which means part of the lead sulphate bond does not reverse during charging. Sulphated plates leave less lead available to react, thus reducing the battery's capacity.

What does this mean to the aircraft owner/operator? Batteries must be thought of as "life limited parts." In our flight school, we are happy to get three (3) years of life out of a battery, and often only get two (2).

To maximize battery useful life, I would strongly recommend that every aircraft owner spend some time on their battery manufacturer's website reading the service requirements and recommendations. I found Gill's website to be particularly useful.

Some useful gems from Gill: "4.4 LIFE EXPECTANCY 4.4.1 Typical battery failure mode should be complete non-reversible utilization of active material. A battery that is

(Above) The battery mount on a Cessna 152.

(Right) The Gill Battery has an integral battery box.

operated and maintained per the manufacturer's guidelines should deliver several years of useful service. However, actual service life varies due to several factors: 4.4.2 Charging variations." In layman terms, this means if the battery is maintained as recommended, expect "several years of service" before the battery will not hold a charge. This section goes on to mention that undercharging or overcharging will shorten the battery's life.

Gill on charging a battery: "WARNING. The battery must be removed from the installation and serviced in a well-ventilated designated area. During servicing, the battery will generate oxygen and hydrogen gases, which can be explosive under the right conditions." In other words, **do not charge the battery in the aircraft, but rather remove it.** My read on the Gill website is that even for trickle charging, which Gill recommends during periods of reduced flight, that the battery should be removed from the aircraft.

So, what does Gill suggest if we have a low battery and cannot start the aircraft?

"7.11 JUMP STARTING AN ENGINE 7.11.1 Teledyne Gill batteries that have been discharged to the point where their cranking power has been diminished must NOT be jumped with another power source. The discharged battery may not be airworthy because it does not have the necessary capacity required to operate the aircraft avionics and electrical system in the event of generator failure."

I know that most flight schools do jump start aircraft so long as the aircraft's battery has enough charge to close the battery and alternator solenoids. The click you hear when you turn on the master switch are solenoids closing. Solenoids are simply electrical switches which require a minimum threshold voltage to close. If the battery is drained to the point of not being able to close a solenoid, then jumping the aircraft may start the engine, but will not result in the electrical system operating. This is because an alternator needs some electricity to energize the electromagnetic coils to turn mechanical energy to electricity. But I digress.

Jump starting – or more precisely using a battery boost to start an aircraft – is not recommended for a number of reasons. The most important reason, according to Gill, is a potentially unsafe situation if the aircraft's charging system fails.

If your mission for the day is to fly around the patch during daylight hours, then an alternator failure is less of a factor than it would be for a night instrument cross-country flight. If the charging system fails, ether due to a malfunctioning alternator or alternator control unit, the pilot must complete the flight with what electricity the battery has stored. Radios, navigation equipment, lights, fuel gauges, pitot heat, and flaps (if electric) all go away when the battery runs out of electricity.

For safety reasons, Gill recommends removing the low battery and charging it fully, then testing the battery for capacity prior to flight. This procedure will maximize battery

life as well. Charging a low battery by flying may work but will also charge initially at a higher rate than recommended, shortening the life of the battery. Pilots who routinely fly in IMC, at night or cross-country, should keep battery capacity in mind. An older battery may well retain enough charge to reliably start your aircraft, but not have much capacity beyond that. If you have a charging system failure, the only source of electricity is that older battery. Being in the clouds with a dead electrical system is not an appealing proposition.

If the battery is so discharged as to not be able to close solenoids, then the battery needs to be removed and charged.

In summary, aircraft batteries are built as lightly as possible and as such have limited capacity. A battery only has so much useful life. Periods of idleness, overcharging, undercharging, and age all reduce a battery's capacity to hold a charge. Common procedures, such as boost starts, are not recommended, and will shorten the life of a battery. Finally, consider the capacity of the battery when planning both the flights and the aircraft's maintenance. Deferring replacement of a questionable battery until the next annual, may be penny wise but pound foolish.

The battery should be removed at each annual inspection, the battery and terminals cleaned, the battery box inspected and cleaned, and the battery capacity checked. I would encourage aircraft owners to talk with their aircraft technician prior to their annual inspection and make sure battery maintenance is done.

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**).

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

What is the value of your plane? Is it insured for that amount?

by Bob Worthington
www.BobWorthingtonWriter.com


Bob Worthington

Over the past year or two, the market for used aircraft has exploded. Values have soared. A few weeks ago, I began an email acquaintance with one of my readers. He was involved in an airplane accident, which destroyed his plane. To his dismay, he found his insurance coverage had not kept pace with the market value of his plane. Therefore, his insurance company found it was cheaper to declare the plane a total loss than repair it. The check he received from his insurance company was insufficient to replace his plane.

The used airplane market

The used aircraft market is based on the economic theory of supply and demand. If the supply of anything needed exceeds the demand, their values drop. But if the demand is greater than the supply, the values go up. This is what happened in general aviation.

During COVID (2020-2021) few people traveled. Commercial airlines terminated flights and private planes quit flying. But business and commerce continued and both business travelers and businesses found that travel by private aircraft became safer, more convenient, and of greater value to conduct business. When COVID tapered off, travel by air expanded by leaps and bounds. Airlines encountered extreme difficulties because there were not enough qualified pilots to fill their cockpits.

Here is another aircraft fact of life. New airplanes are expensive, even the smallest ones. During COVID, many manufacturers of anything ran into problems acquiring parts, so new cars, household appliances, construction projects, and even airplanes stumbled on assembly lines. So fewer new planes were being built.

Another fact: new airplanes depreciate quickly as soon as they are sold. Not so with used airplanes… used airplanes appreciate in value! Therefore, a new $600,000 plane may decrease in value by $50,000 to $100,000 in a year or so, while the used $200,000 plane gains another $50,000 in the same period. Which one is the better investment?

As new aircraft sales decline, their prices increase so the manufacturers still make a profit. In the last decade or so, some new airplane sales prices have doubled! As new prices inflate, so do the values of used aircraft.

Actually, the economic side of aircraft values is much more complicated than that. In 2020, used aircraft saw a 10% decrease in value because sales dropped by over 50% (due to COVID). The used aircraft market was dying. But by 2021, medical science was getting the best of COVID and private air travel picked up. More people cherished travel by private aircraft, so more airplanes were needed. Used planes, being cheaper than new, saw a leap in sales by the last half of 2021. The demand was greater than the supply. Businesses and affluent people discovered that a cash offer for an airplane beat financing. Many airplanes were sold before they reached the market.

Add to this, the need for more pilots meant more aviation students in colleges and flight schools. More students meant more training aircraft were and are needed. So now all kinds of flight schools need training aircraft and are paying top dollar for the better used airplanes. Some used aircraft sales experts are predicting a slow-down in used sales in 2023, resulting in lower used aircraft values, but who knows what will eventually happen.

The airplane insurance business

2019 was the worse year for aviation insurance in almost two decades. Claims were greater than premiums, and non-commercial single-pilot flights comprised the greatest risks. The number of aircraft insurance companies has decreased (thus less

competition), and insurers began to walk away from many small general aviation aircraft owners. To remain indemnified, some GA pilots insured for less coverage and paid much higher premiums.

In 2021 though, aviation insurance companies did much better. Reduced flying resulted in less accidents and fewer lawsuits. But now airplanes are spending more time in the air, inflation is increasing costs of maintaining aircraft, jury lawsuit awards are rising, and more flying means greater risks. So, in 2023, the risks of accidents or incidents are rising and costs for insurance are escalating. To retain lower costs of owning and operating an airplane, GA pilots tend to gravitate toward reducing insurance costs by limiting their liability. Therefore, over the past couple of years, all aviation costs have increased, but GA pilots have resisted increasing the insured value of their planes. I bet that your airplane is worth much more than it is insured for.

So now what do you do?

No aircraft owner expects to have an accident or experience storm damage. But it does happen. Twice insurance companies have bought me new (used) planes because of accidents I had. Both accidents were mechanical failures, not pilot error. But they did happen. Both planes were fully insured, so I received their full value when they were totaled. But I should point out that these accidents happened when insurance policy costs were lower and not that hard to acquire.

In the December 2022/January 2023 issue of ***Midwest Flyer,*** fellow contributing editor, Richard Morey, wrote in his Proficient Pilot column: *How to become a better pilot.* He clearly pointed out that most GA pilots do not fly enough to remain proficient. He then described several ways to fly more and become better pilots. He focuses on what the insurance companies already know. GA pilots (at the lower end of flying) do not fly enough to be safe. What he does not mention, however, is the added advantage of flying and training more… a pilot becomes less of an insurance risk, and aircraft insurance is easier to acquire and is less expensive.

A few days ago, I saw an ad for a used 1970s Cessna 182 for sale. It seemed to be an average airplane with its hours, equipment, and condition. The price amazed me as it was around $189,000. I could not believe that. Four years ago, a similar C182 I owned sold for $65,000. Using an annual inflation rate of 3.12 percent, its value would only increase to $73, 511 – not an increase to over $120,000.

Many of us make improvements to our airplanes over the years by redoing the interior, adding avionics, overhauling our engines, or doing other things to make them better, safer, or more comfortable. Often though, we do not appraise the value of our airplanes to keep the insured value in line with what it would cost to replace them with comparable airplanes, that is if you can find one! Check out the current advertised sales prices of used airplanes like yours.

What is your airplane worth? Is it insured for that amount? If not, can you afford to take a loss?

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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Which End of A Grass Airstrip To Build A Hangar... Upslope or Downslope?

by Pete Schoeninger


Pete Schoeninger

Q) What is FAR Part 134?

A) Part 134 of the Federal Aviation Regulations (FARs) is a nickname given to oft violated activities which prohibit carrying passengers a distance for compensation without a Part 135 Air Taxi Certificate. The lure of having a buddy or business associate fly people somewhere for $$ or trade is tempting, but illegal. It is sometimes done in innocence, but the "feds" will jump on the violator if they find out. Getting an FAR Part 135 Air Taxi Certificate is a time-consuming and expensive undertaking.

Q) Is it possible for a powerful airplane to NOT want to nose down if you climb steeply and then let go of the wheel or stick? If so, how?

A) In most flight operations, the Center of Gravity (CG) of an airplane is ahead of the Center of Lift (CL). A negative load on the tail surfaces keeps the airplane from nose diving. In a very steep, unaccelerated climb in a low-wing airplane, it is possible that the Center of Gravity could now be behind the Center of Lift. If that would happen, the tendency is for the airplane to nose up even steeper without input from the pilot.

Q) I am a retired aerial applicator (i.e., crop duster). Next spring, I am going to do some grading on my farm and make a grass airstrip, which is the dream of many pilots. The strip slopes down to the north. My question for you is, where to build a hangar, top, middle, or bottom of the strip? I am leaning toward the bottom of the strip because it will be a little more out of the wind, but a friend told me to put it in the middle. Your thoughts?

A) With a sloped strip, you will usually takeoff downhill and land uphill. After landing uphill, you will still slow reasonably quickly, whether or not the strip is slippery, and you can then add power if needed to get to the top of the strip. But if after landing uphill you must turn around and taxi downhill on very slippery conditions, getting stopped could be perilous. Therefore, I recommend that you put your hangar at the TOP of the hill.

A) Put your hangar at the top of the strip if possible. The hazard of a middle or bottom of the strip location is in winter, you don't want to be taxiing downhill on snow and ice (which will linger, especially facing north) and be unable to stop. If you are taxiing uphill to your hangar, even on bare ice, you will slowly, fairly quickly, go backwards and be unable to stop, if you reduce power to idle.

Q) Is there a quick way to tell if a 150 HP Lycoming engine has been changed to 160 HP? Is it done often?

A) Yes, it is a fairly common conversion usually done at overhaul time. Common airplanes this is done for include Cessna 172s that originally came with 150 HP engines, and the same with Cherokee 140s and some other airplanes. There is virtually no change in empty weight of the engine, but be aware, a new prop (big bucks) might be required. A very first, but not only clue and not always accurate that an airplane has had the conversion, would be to look at the fuel filler cap labels. The 160 HP airplane requires and should have a label at the fuel tank designating 100LL aviation fuel, or possibly premium Mogas. The 150 HP version can run on aviation fuel rated at less than 100 Octane. If the engine HP conversion has been made, the airplane flight manual, as well as the engine maintenance log, should indicate the change.

Q) Is there a rule of thumb for loss of value for missing maintenance logs? I am looking at a used Cessna 152 with no maintenance records for the 5 years it was in Europe. Maintenance records do indicate major airframe rebuilds a couple of times about 15 years ago, and the airplane has about 20,000 hours of total time.

A) There is no set rule. Each situation is different. For an older airplane with lots of hours and a few smacks, and not much collector appeal, the drop in value of 5 years of missing maintenance logs would not be significant. At the other end of the spectrum, let's say you're looking at a 10-year-old Bonanza and the first five years of logs are missing. That would be a major degradation in value. If you plan on selling your newly acquired airplane after owning it a few years, I would be more concerned about value loss due to missing logs, rather than if you anticipate flying to heaven in it.

Regardless of what the logs say, the most important thing a buyer can do is to have a very thorough prepurchase inspection of the aircraft under consideration by an experienced mechanic familiar with that make and model. I have seen airplanes which have had undocumented repairs, some OK and some cobbled. Logs are a story written by humans. The airplane will not lie to you. Get a good mechanic to look closely at the aircraft and hopefully the logbooks if you are considering buying.

Q) Can aviation fuel spills damage paint, or aluminum?

A) Usually not. But if you have a situation where a fuel tank is weeping a bit of fuel from a high-wing airplane and running down the side of the fuselage for a long period of time, that will discolor paint badly.

Q) Why are traffic patterns now usually 1000 ft AGL (above ground level) vs 600 or 800 ft 50 years ago?

Half of this airstrip is level, and the other half has a slight incline. With a sloped airstrip, a pilot will usually takeoff downhill and land uphill, wind permitting. After landing uphill, a pilot will still slow reasonably quickly, even if the airstrip is slippery, and he can then add power if needed to reach the top of the airstrip. Therefore, it would make sense to have one's hangar at the TOP of the hill.

A) "Years Ago," common trainers (Cubs and Champs, among others) often had 65 HP engines. Their rate of climb in the summer with two people onboard was pretty anemic. Now almost all trainers have at least 100 HP and many have 150 HP or more, making the climb to 1,000 ft much quicker. 1,000 feet gives a little more safety (gliding distance) in the event of a problem and lessens noise pollution.

Q) My mechanic noted on my Cessna 182 that there is substantial crazing above the defroster openings. He wants to change the windshield (big buck$.) Can't the windshield just be ground down a little?

A) A very little bit of grinding is possible, but it should only be done by a very knowledgeable aircraft mechanic with windshield maintenance experience. Bruce Botterman at New View Technologies at Wittman Regional Airport in Oshkosh, Wisconsin, is one such person. Bruce also helped me with this question. Contact Bruce at **920-303-0709**. Generally, I recommend changing the windshield in this situation. Losing a windshield can be a dire emergency that you don't want to risk. I know a friend who had a windshield blow out on his Piper Tri-Pacer many years ago and was barely able to keep it right-side-up on an immediate forced landing.

Q) In the "old days," there was no regulation requiring a checkout when transitioning from a tricycle geared airplane (those with a nosewheel) to a conventional geared airplane (taildragger) for the first time. Do you know of any pilots who learned to fly in a tricycle gear airplane and then were self-taught and flew taildraggers?

A) Yes, I know of a couple of incidents where good tricycle pilots managed to teach themselves to fly taildraggers before checkouts were required. Today, that is illegal. While I am not a big fan of excessive regulations of any kind, I think requiring a CFI to sign off a tailwheel transition is a good idea.

Q) How did a dealer get my contact information to send me a postcard stating he wanted to buy my airplane?

A) Your airplane's owner information (you!) is public record. Do an internet search for Federal Aircraft Registry, click on registration N numbers, enter your number, and check it out. Title companies and others can, for a fee, send a list of airplanes specific to an advertiser's needs. For instance, if you have an improvement for 1978 thru 1998 Beech A36 Bonanzas, and want to test the market for it, you can order that list either in paper or online form.

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***

Oh, the places we will fly

Where will aviation take you in 2023?

by AOPA President Mark Baker


Mark Baker

Leave it to a children's book to show us the way. After all, Dr. Seuss's popular work about the importance of seizing new opportunities, keeping an open mind, and trying out new things speaks to all of us aviators. We are adventurers, seekers, explorers. I hope each one of us can live up to these descriptors in the year ahead.

What does 2023 hold in store for me and the team at AOPA? I may not have a crystal ball, but if I did, it would show a lot of flying. That should come as no great surprise. It's been that way for me since I got my certificate in my early days, and it hasn't been much different since. My year will be spent continuing to pursue this great passion we share for aviation, and making sure that each one of you has the freedom to fly.

I was recently asked if I still have a bucket list of destinations. My answer was "sort of." I'm fortunate that I have crossed off a lot of my list, but there's always a little room for more.

In a career that has taken me to so many different places—figuratively and literally—I have been fortunate to see so much of this great country. In fact, I'm pretty sure that I have visited every American city and town with a population north of 50,000. It's been a necessary—and welcomed—part of my career, and I have been incredibly thankful that almost all these places are served by one of our 5,000 public-use GA airports. I've taken good advantage of that fact.

The coming year may not be as much about flying to brand-new destinations (although there will always be new places to see) as it will be about revisiting favorite destinations and spending more time there—going farther, seeing new things, discovering more wonders. It's always a goal of mine when I visit a destination to see something I haven't before (especially from the air—no two aerial views are ever alike). It's the nature of an explorer.

I am looking forward to visiting the Bahamas again. It's one of the most spectacular destinations, and the trip there will be made more efficient by the work our Government Affairs team has done to battle cumbersome entry requirements. To see the islands of the Bahamas by air is truly a sight to behold.

Water will be a common theme in 2023, so I'd better put my seaplane skills to the test. I am looking forward to a trip this summer around the Great Lakes. So many wonderful destinations in the upper Midwest. I'm really looking forward to flying up to the top of the Missouri River in Fort Peck, Montana, and visiting the amazing lakes in that beautiful region.

The Northwest will be calling me again in 2023. Seeing my friends in Driggs, Idaho, and visiting airports in Washington and Oregon will be a highlight. I'm also looking forward to an annual pilgrimage to Alaska, where the flying and scenery just can't be beat. I'm sure I'll be using both wheels and floats.

Of course, much of my most cherished and anticipated trips will be those to see our members and the general aviation community. There is nothing I enjoy more than meeting with those who enable us to do our important work. I'm looking forward to seeing our friends in Florida at Sun 'n Fun, and of course no year is complete without a fantastic week at EAA AirVenture in Oshkosh.

Our events team has another terrific year lined up for 2023 with a refreshed strategy to partner with established airshows. That will allow us to do what we do best—aviation—and allow our partners to do what they do best—put on an airshow.

I'm excited to fly back to Arizona in February for the AOPA Fly-In at the Buckeye Air Fair. The folks put on a tremendous event, and our members will be treated to a first-class experience. What a whirlwind year ahead.

Let me close with some more words from the good doctor, who put it in a way that should be the beacon for all aviators in 2023: You'll be on your way up! You'll be seeing great sights! You'll join the high fliers who soar to high heights. ❑

Check Your Comms!

by Kyle Lewis
Regional Manager For Airports and State Advocacy • Great Lakes Region
Aircraft Owners & Pilots Association


Kyle Lewis

As pilots, we pick up certain lingo, like "Direct To," "Line Up and Wait," "Cleared Via," "Climb or Descend and Maintain," and my personal favorite, "Unable!"

Phraseology is important, especially when navigating the wide-open blue into congested airspace. Generally, pilots do well at following ATC instructions and communicating into the unknown at non-towered airports across the country.

While this may sound like a diatribe or safety briefing, it is not. If you are a pilot who is also an aircraft owner, chances are you base your aircraft at an airport that is governed by a municipality, county, or township. From time to time, it becomes necessary to communicate with those appointed or elected officials who oversee the day-to-day of the said airport.

"Going Direct" is often the best route. Not only is it the most efficient vector, but it gives you the face-to-face and personal attention that oftentimes addresses the specific issue or situation at hand. While an email is a handy tool, we poke or peck away a few lines in a matter of seconds, and then patiently await a response. That response may never come. I will admit, I have missed a few emails, some not that big of a deal – others, not so much. Inboxes are filled daily with newsletters, sales ads, invites to join a jelly of the month club, or our all-time favorite, the notorious "pick your foreign" prince has money awaiting you if you…just…click…here.

In short-SPAM (not picking on you Austin, Minnesota), email is great, until it's not!

The youngest generation may disagree, but letter writing is not dead! We are living in the age of abbreviations and emojis. Text message chains are filled with memes that convey messages warped with the usual high sarcasm for a given situation. Who takes the time to pen a letter? AOPA does! It is our preferred method to communicate with an airport governing body, be it local, state, or federal. Just an FYI, the letter is usually not the opening play, but rather the culmination of research, fact-finding, interpretation, and what is in the best interest of our members. At AOPA, we have a well-practiced method of letter writing, but I want to share what you can do, on your own, and still be an effective communicator at your airport.

First, be concise. No matter how "new" you are, attention spans have dwindled. Be it a newspaper story, an email or a letter, the receiver will decide in the first seven seconds if he or she wants to continue paying attention. We don't dawdle on frequency; don't in your letters.

There will always be the Who, What, Where, When, and Why. The letter should be personal, but not overly emotional. AOPA understands that in certain situations, there are financial implications, and it is very personal, but emotions can cloud the effectiveness of what is trying to be conveyed to the audience. And as the author, who are you representing? Is it yourself or a larger contingency of airport users? Another question to consider is the audience. Who is it? Is it a city council or an airport board, or a commission? Sometimes the audience needs to be educated on who the who is. Large city councils may have no clue who the (as an example) "Hangar Row 12 Pilots" are.

In your introduction, make it clear so that the city council understands who you are, and why they should care (votes are a good motivator). The next important part of the letter after the introduction is "the ask." The ask is what the letter is all about. The ask needs to be clear and concise. The ask will be supported by what follows in the letter. It is simply what you or your organization sees as an amicable resolution to the specific issue. Sometimes it's an easy ask – "Hangar Row 12 Pilots are seeking ramp space to host an airport open house on XYZ date at XYZ time." Simple, right? Now explain why!

It is so very important to have factual, documented information referenced in your communications to airport management. This is the most important factor in getting your message across. Speculation is a no-go, as is self-defining what you think a certain scenario warrants. Making broad statements like "helicopters in the traffic pattern are unsafe," is, well, an undocumented perception. Be factual and be able to back up statements. This is your or your organization's credibility being put in black and white!

What does the purpose of the letter serve? Usually, there is more than one answer here. The letter can be the formal document to go on the record with the governing authority, and a well-presented and drafted letter can be attention-getting. Remember, if it is sent to a public body, it can be subject to public records (hint: it will be!). The letter sitting on an airport manager's desk is bound to get more attention than an email in a digital inbox. Don't forget to "cc" other interested parties, as their attention will be turned to getting an answer as well.

The basic steps in a 1,2,3 if you will –

1. Define the issue.
2. Research and factually document your position.
3. Draft a letter with a specific ask (or position), and be polite, clear, and concise.
4. Revise for grammar and effective writing.
5. Prepare for questions.
6. Deliver to the interested parties.

AOPA has a library of resources, located on its website at **aopa.org/asn** which also has a very specific resource on letter writing! The context is a "letter to the editor," but the rules apply the same to help our discussion. AOPA's Airport Support Network (ASN) Volunteers are encouraged to support their airport in many ways, and effective communications with airport management, local civic leaders, and the public are just a few. Does your local airport have an "AOPA ASN Volunteer?" If not, it could be you! (**kyle.lewis@aopa.org**) ❑

Could The FAA Be Putting Us At Risk By Changing The Definitions of Long-Accepted Acronyms & Terminology?

by Dave Weiman

The recent fiasco on January 11, 2023, involving the Federal Aviation Administration (FAA) and its lack of a backup system for the highly relied on 30-year-old electronic NOTAM system, has brought attention to the acronym, and its recent change in definitions.

Previously, the FAA changed the widely accepted air traffic control instructions "Taxi Into Position and Hold" (on the departure runway) to "Line Up and Wait." And according to the FAA, we can no longer climb into the "cockpit," but rather we must enter the "flight deck!" Will the names of airplane parts be next, or has that already begun?

Most recently, the agency has changed the definition of the acronym "NOTAM" from Notice to Airmen to Notice to Air Missions.

One would think it would have made more sense had the agency instead changed the acronym to something like "NOTOP," meaning Notice To Pilots, but at least they preserved the acronym "NOTAM," and we commend them for that.

For review purposes, according to the International Civil Aviation Organization (ICAO), Annex 11, Air Traffic Services, a NOTAM is *"a notice containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations."*

NOTAMs are issued by national authorities for a number of reasons, such as:

- Hazards such as air-shows, parachute jumps and glider or micro-light flying;
- Flights by important people such as heads of state;
- Closed runways, taxiways, etc;
- Unserviceable radio navigational aids;
- Military exercises with resulting airspace restrictions;
- Unserviceable lights on tall obstructions;
- Temporary erection of obstacles near airfields (e.g., cranes).

For reasons of conciseness and precision, NOTAMs are encoded, although the code is usually sufficiently self-evident to allow the user to identify a hazard.

NOTAMs are communicated by the issuing agency using the fastest available means to all addressees for whom the information is assessed as being of direct operational significance, and who would not otherwise have at least seven days' prior notification.

Flight crew access to current NOTAMS during preflight planning may be via airport Flight Briefing Facilities provided for all aircraft operators or via an alternative 'tailored access' system provided by their company which will provide access only to NOTAMS relevant to their intended flight.

Trigger NOTAMs serve to alert those who maintain aeronautical databases that specific changes will be effective soon, usually at the next AIRAC date. A trigger NOTAM contains a brief description of the contents of the amendment or supplement, the effective date and the reference number of the amendment or supplement. It is usually valid for 14 days.

Snow conditions are notified, not by NOTAM, but by a special message called SNOWTAM. Similarly, volcanic ash is notified as a special message known as an ASHTAM.

Full details concerning the content and distribution of NOTAMs, SNOWTAMs and ASHTAMs are contained in ICAO Annex 15.

Let's hope the FAA will use some of the money authorized by Congress to update, back-up and modernize our NOTAM system. In the meantime, pilots need to stay up to date on FAA's changes in acronyms and their definitions. ❑

AOPA & Others Call For 5G Mitigation Through 2023

The Aircraft Owners and Pilots Association, Experimental Aircraft Association and General Aviation Manufacturers Association are among signatories of an open letter to the Federal Aviation Administration calling for an extension of 5G C-band mitigation measures by wireless carriers amid ongoing work to retrofit aircraft. "Our aviation coalition strongly believes that instead of once again waiting until the eleventh hour, now is the time for the leadership at federal agencies and the White House to implement a solution that allows 5G to move forward and avoid further flight delays and cancellations," the letter states. ❑

New Rule Protects Hot Air Balloon Passengers

NTSB recommendation made after horrific 2016 crash.

WASHINGTON, DC – National Transportation Safety Board Chair Jennifer Homendy has welcomed new medical rules for hot air balloon pilots while citing the need for greater oversight of air tours.

The new rule, adopted by the Federal Aviation Administration on Nov. 22, 2022, and mandated by Congress in 2018 after an NTSB recommendation, requires pilots of hot air balloons carrying paying passengers to hold a medical certificate and pass a medical exam – like commercial airplane and helicopter pilots.

NTSB first made the recommendation for balloon pilot medical certificates after a hot air balloon carrying 16 people including the pilot crashed into powerlines outside Lockhart, Texas, on July 30, 2016, killing all aboard. NTSB investigators found that the FAA did not detect the pilot's history of drug and alcohol convictions for nearly 30 years. Because the pilot was not required to obtain a medical certificate as a commercial balloon pilot, the FAA did not have further opportunities to identify his convictions through the medical certification process.

The change comes after years of advocacy and action by NTSB, lawmakers, and others. The FAA published its proposed rule to require medical certificates last November.

"Though this is a promising step, I remain concerned about passenger safety on commercial balloon flights," said NTSB Chair Jennifer Homendy. "We've seen the deadly consequences of unscrupulous air tour operators time and again. That is why we need strong FAA oversight of all revenue passenger-carrying flight operations."

NTSB has a long history of concerns about the safety of various revenue passenger-carrying operations, including sightseeing flights conducted in hot air balloons, helicopters, and other aircraft, as well as parachute jump flights. These operations are not subject to the same maintenance, airworthiness, and operational requirements as other commercial flight operations.

Following the Lockhart accident, NTSB also recommended the FAA analyze its oversight and implement more effective ways to target the oversight to operators that pose the most significant safety risks to the public. NTSB reiterated the recommendation in 2021: *Enhance Safety of Revenue Passenger-Carrying Operations Conducted Under Title 14 Code of Federal Regulations Part 91*.

To learn more about the Lockhart investigation, read the report: **https://www.ntsb.gov/investigations/AccidentReports/Reports/AAR1703.pdf** ❑

FAA Extends Aircraft Registration From 3 To 7 Years

WASHINGTON, DC – The Federal Aviation Administration (FAA) has extended the duration of aircraft registration certificates from three to seven years, an action which should alleviate delays in the aircraft registration process.

All registrations valid on the date of the final rule will be extended to a total registration term of seven years from the date of issuance, notwithstanding the expiration date on the registration certificate. For example, a certificate issued in 2019 will expire in 2026 under the new policy. The final rule took effect January 23, 2023. ❑

Homebuilt Aircraft Fatal Accidents Remain Under Historic Average

OSHKOSH, WIS. – Fatal amateur-built aircraft accidents remained under the historic average over the 12-month period ending in September 2022, but the Experimental Aircraft Association notes that an uptick over the previous year's total shows that focused efforts to enhance safety even further remain essential. For the federal fiscal year ending September 30, 2022, the Federal Aviation Administration reported there were 56 fatal accidents in experimental category aircraft over the preceding 12 months, including 39 in amateur-built aircraft. That compares to 42 total accidents – 33 in amateur-built aircraft – during the 12-month period between October 2020 and September 2021.

"The fatal accident totals, for both amateur-builts and experimental aircraft overall, remain 30 to 35 percent below where they were just a decade ago, including when looking at the three-year rolling average on which the FAA bases its annual not-to-exceed number," said Sean Elliott, EAA's vice president of advocacy and safety. "While that's good news, we never want to see an annual increase in the totals. That's a reminder that we all must continue to work to make safety the top priority even with the small numbers we see each year."

The higher accident totals in experimental category aircraft mirror an increase for all of general aviation over the same 12-month period. This also coincides with preliminary figures that show an increase in flight hours in 2021 and into 2022.

"EAA has been deeply involved in FAA's safety analysis teams for several years, and we consistently see that experimental aircraft accident causes are very similar to accident causes for all GA accidents," Elliott said. "It shows that the accidents overwhelmingly do not occur because a pilot is flying an amateur-built or experimental aircraft, but because of factors relating to pilot decision making or flight procedures. Those are areas where EAA safety programs and resources can make a difference." ❑

Flying the Line

by Dean Zakos

I was startled awake.

The buzzing alarm clock did its job exceedingly well. It was a raw, windy day in March of 1971, and I needed to get up. The North Central Convair 580 waiting on the ramp would not fly itself. I had been with our "local service carrier" airline since 1964 and sported four silver stripes on the sleeves of my dark blue uniform since the beginning of the year. My days on the line were starting to seem routine, but I also knew each one would be different and distinguishable; schedules, maintenance issues, destinations, weather, and crew personalities all contributed to that.

I made my way to North Central's Flight Ops at O'Hare, located beneath Gate H1, and signed in at the crew scheduling counter. Today's flight had us departing from Chicago at 0630, with stops along our route at Milwaukee (MKE), Green Bay (GRB), Menominee (MNM), Escanaba (ESC), and Marquette (MQT). In the afternoon, we would return to ORD by the same route. The weather for the day would be "predictable" for Wisconsin at this time of year; that is, a bit unpredictable. Forecast was scattered clouds over the southern half of Wisconsin; overcast skies, dropping temperatures, and gusty winds landing in Green Bay; and some rain/snow showers and reduced visibility en route to Menominee and Escanaba. Clearing skies in the afternoon.

In 1971, navigation was less sophisticated than it is today. No GPS, just Victor airways and direct routes. A few larger airports we flew into, such as ORD, MSP, DTW, MKE, and GRB, had ILS approaches, but many smaller fields did not. ADFs were still a valuable instrument in the cockpit, as NCA had installed several FAA-approved custom NDB approaches into smaller cities. The approach into Duluth (DLH) was a Precision Radar Approach with military controllers.

North Central had upgraded its fleet in 1967 to include the Convair 580, a turbine-powered conversion of the Convair 440 piston-powered aircraft. The 580 was a big improvement over the 440, with two T56/501 4,000 shaft horsepower Allison engines. An inside joke among NCA personnel was that the airplane was known as the "Converter 580" because of its ability to turn Jet A into pure noise. It was a good airplane that did everything it was asked to do, with long wings, excellent aileron authority, and widely spaced

main landing gear. When the FAA certified the turboprop conversion, they required a bungee interconnect between the rudders and the ailerons. We had to contend with the artificial loads imposed on the controls in addition to normal air loads. This resulted in requiring some muscle when landing in strong crosswinds. The wings were a little stiff, often generating pretty solid bumps in turbulence.

The 580 could carry up to 48 passengers and a crew of three: Captain, First Officer, and a Stewardess. And yes, I know they are called Flight Attendants today. In 1971, Flight Attendants wore white hats, dark blue jacket and skirt combos, and white go-go boots. Standing just inside the Convair's open airstair door boarding passengers on a March day in the Upper Michigan Peninsula, it had to be chilly on bare legs. It was not unusual at NCA to fly with the same FO and FA for the entire month.

As a boy, I never really thought seriously about becoming a pilot. My dad always wanted me to be a doctor. However, my experience in organic chemistry made it clear to me that my best talents were to be found elsewhere.

In college, I participated in the Air Force ROTC program, graduating with a BA degree. Upon graduation, I entered military service. However, not as a pilot, but as a supply officer. I quickly realized who was having all the fun. I applied for pilot training and was accepted. Basic at Williams Air Force Base in Phoenix, flying T-37s and T-38s. Next assignment was to Training Command at Shepard Air Force Base in Wichita Falls instructing in T-37s, then the USAF Reserves.

Walking out onto the ramp at ORD in the early dawn, I looked up at "Herman," the blue duck painted on the tail of our aircraft. The sun was just beginning its rise over the eastern shore of Lake Michigan. The Convair sat waiting and ready, ground-start cart plugged in, the smell of jet fuel drifting across the ramp. Mechanics and line crew scurried to complete tasks with passengers about to board. I often paid little attention to the North Central logo over those years. I admit now I took it for granted. How I wish I could see that logo again on the tail of a passenger plane.

The First Officer (FO) will be flying this leg. Once I settled into the left seat, the FO and I run our "Receiving Aircraft" and "Before Start Checklists." Passenger count showed 37 souls joining us this morning. Looking back through the open cockpit door, I could see the rows of twin seats, with ample headroom and leg room compared to today, and the "hat rack" style shelves running the length of the cabin on either side. It is hard to believe now that most men boarding the plane wore suits and ties, most women wore dresses, and many children were dressed as if it was Easter Sunday.

Our clearance out of ORD was "North Central three-four-three, cleared to the Milwaukee airport via left turn after takeoff to two-seven-zero, radar vectors to the Northbrook VOR, then as filed, climb to and maintain five thousand, contact Departure on one-two-six-point-five. Squawk four-three-four-six." At that altitude, it was easy to watch the cities, rural airports, farm fields, and sectional lines that passed beneath us through scattered clouds. Lake Michigan would be on our right along the route. I was always impressed with the stunning arrays of blue and green hues the sun and clouds produced daily on the water.

After engine start, with my left hand on the nosewheel steering wheel beside my seat, we taxied out to our assigned runway, 32L. We challenged and responded to 18 items on the "Before Takeoff Checklist." The last item is the annunciator panel located on the center console. We confirmed four amber, six green, and no red lights. We are ready to go.

Upon takeoff clearance from the Tower, we taxi onto the runway. The FO advances the power levers. The Allison T56s respond instantly. Engine vibrations are smooth and steady as we started our rumbling takeoff roll. At 110 knots, I call "Vee One." At 112 knots, the FO pitches the nose up eight degrees. I confirm positive rate, then the FO calls "gear up," simultaneously giving a thumb-up with his left hand, as we climbed out over the end of the runway. Passing 130 knots, the FO calls for "METO" power. At 400 feet above the ground, the FO requests "flaps zero," then calls "climb power." He then asks for the "Climb Checklist."

Light but constant winds this morning. While ascending in our left turn, I contact Departure when advised and we are given our next heading. With short flying legs, things happened quickly. Estimated time en route to MKE was only 30 minutes.

The Flight Attendant always had her hands full on such short hops. Barely enough time to serve a tray of pre-poured beverages and get things stowed away before landing. We are handed off to Milwaukee Approach. I report Mitchell Field in sight. Approach clears us for a visual approach to Runway 1L.

The FO calls for the "In-Range Checklist." We agree on approach flap settings and approach speeds. At 1,000 feet above the ground, the FO asks for "flaps one-seven," and then "gear down." Next, "flaps two-eight," and we slow to "VRef plus five," or about 130 knots.

I have seen the view of a runway on final out of a cockpit window countless times, but I never tired of it. The stark blue and white of the sky this morning, the rolling stream of farm fields, roads, and buildings flowing by beneath us, the runway threshold growing larger in front of us, the controlled descent as we managed small adjustments to remain on speed and on glidepath, made each landing at once both familiar and unique.

The FO calls for the "Before Landing Checklist." I advise Milwaukee Tower, "North Central three-four-three is five miles to the south, inbound on visual approach straight in Runway One Left." "Cleared to land, winds zero-two-zero at one-two," the Tower responded.

The Convair brushes onto the runway. First leg complete. We taxied to Concourse E, known to us as "The Banjo,"

and shut down. The FO opened the forward entrance door and airstair. Fourteen passengers deplaned. Eight new passengers boarded. Inside the terminal, as we did at each stop, I checked with Dispatch and reviewed the "Papers," including weight and balance and a long sheet of teletype paper containing weather and NOTAMs. The fast-moving front, coming from the northwest, was arriving sooner than anticipated. Green Bay's weather was deteriorating. At our estimated arrival time, forecast was 500 and one in light mist and snow showers. Winds were picking up. My leg to fly.

Time on the ground at MKE was 30 minutes. Then, we were in the air again. Estimated time en route to GRB was 55 minutes, assuming no lengthy vectors by ATC. Climbing out of MKE, Lake Winnebago quickly came into view in the distance off the port wing. The southern half of the lake near Fond du Lac was shimmering in sunshine and scattered clouds, but the northern half was difficult to discern, shrouded in overcast. East of Appleton at 5,000 feet, we were in IMC. There was some light to moderate turbulence. Hopefully, not too many new or white-knuckle passengers on this leg. I asked the FO for current conditions at Green Bay. Ceiling and visibility as advertised, and winds from the northeast, 18 gusting to 28.

Chicago Center tells us to expect the ILS 36 into GRB. We remove the approach plates from our Jeppesen binders and clip them on our control yokes. I begin the briefing by identifying the exact name and date on the plate. I then call out the localizer frequency, approach course, runway length, touchdown zone elevation, approach and runway lights, and crossing altitude at the Final Approach Fix (FAF). Next, I review the Decision Height (DH), minimum visibility, and the missed approach procedure. I always thought a good briefing was essential to functioning as a team.

We are handed off to Green Bay Approach. After vectors and a descent to 2,700 feet, the call comes from Approach, "North Central three-four three, turn left to zero-three-zero to intercept the localizer. Maintain two thousand seven hundred until established. Cleared ILS Three-Six approach. Contact Tower on one-one-eight-point-seven." As the First Officer read back our clearance, we commenced our turn. We contacted Tower. Winds were 035 at 15, gusting to 26. The ADF needle is pointing to the Locator Outer Marker. The localizer indicators on the HSIs in our panel soon started to center. Cross the Final Approach Fix and center the glide slope pointers at 2200 feet. Decision Height is 884 feet. I retard the power levers to idle. Pre-landing checks complete. Flaps at 17. We started down. Precipitation on the windshield. Outside air temp below freezing. Confirmed anti-ice "On." At DEPRE, the Final Approach Fix, I call for "gear down," then request the "Landing Checklist." Next, "flaps 28," and adjust the power levers to maintain VRef plus 10 knots.

The FO is dividing his attention between looking ahead through the windshield and checking his HSI, airspeed, and altimeter. I was on the gauges. My eyes darted across my side of the panel: artificial horizon; HSI; altimeter; artificial horizon again; airspeed; HSI again. Correcting. Kept my scan going. Rate of descent 600 feet per minute. Steady. Gusts buffeting us. Scanning the instruments. Crabbing to the right. Correcting. Bracketing the heading to stay on the localizer.

The FO makes his first call-out, "one thousand." He was staring intently out the windshield, pausing only to shift his eyes to read his instruments. No ground contact or runway yet. Ceiling was supposed to be 500 feet above ground level, or 1200 feet on the altimeter, but so far only wet, gray nothingness illuminated by our landing lights. We are on localizer and glide slope. Speed is good. Descent rate good. Continuing. If we do not see the runway at minimums, we will go missed and sort this out. About 2.5 miles to the runway threshold.

If you are wondering, my hands and forehead were dry. I did not feel relaxed, but I was not nervous. I felt alert and ready – and alive! One of the things I liked best about flying is how it focuses your concentration. An ILS approach to minimums will do that. All of my senses were fully engaged. I have done this before; I am good at it. Hours and experience make a large difference in comfort level and confidence. I was ready to land or, if the runway did not appear in front of us at DH, I was prepared to go missed. Our training, standardization of procedures, and experience made both options equally possible and safe.

"Two hundred," the First Officer calls out. "One hundred . . . ." Then, "Runway in sight. Minimums." I looked up from the panel and appearing through the rain-and-sleet-spattered

windshield were the approach lighting and runway. Lights were up full. We were on the centerline. Slightly lowered the right wing. Rocking a bit with the gusts. Careful. I do not want to pick up the wing. Over the runway, I pull the power levers to idle. Crabbing over the centerline, nose into the quartering winds, bleeding off airspeed. Now, pushing left rudder hard to straighten out and track the centerline. A moment later, the right mains screech, lightly bounce once, and then make solid contact with the pavement. The left mains quickly follow and plant firmly. Yoke full right. Hold the nose off. Hold it. Now, let it down gently on the runway centerline.

I call "flaps up" and draw the power levers back and up, over the detents, moving the props into reverse pitch. We slow quickly, bouncing and swaying in our seats, forward momentum pressing us against our shoulder straps as each prop's four big, rectangular blades push hard opposite the oncoming air. I do not need to touch the brakes. Up ahead, the turn off to the taxiway. Despite wet, slick conditions, we will easily make the exit. For a second, I think to myself, "My dad would be proud."

There was a delay to our departure from GRB, as the ground crew addressed a minor mechanical issue with a cargo door latch. NCA owed much to the ramp agents, dispatchers, and ground personnel for our enviable "on time" record. Weather forecast now says conditions are improving. Low clouds and precipitation will move off to the east within the hour. We were on to Menominee, Escanaba, and Marquette, arriving MQT at 1230. To save time, we called ahead to the ramp agent at MQT and put in our orders for malts and cheeseburgers at our favorite local restaurant. Lunch at MQT will be quick, but still time enough to eat, laugh, and tell a few stories or discuss the news of the day. We will depart Marquette at 1335. For the return legs, we will make stops again at Escanaba, Menominee, Green Bay, and Milwaukee, arriving O'Hare at about 1845 local.

If you are counting, in a mix of VMC and IMC conditions, that is 12 takeoffs and landings. Several instrument approaches, one to minimums. With vectors and some headwinds, about 6 hours and 45 minutes of actual flying time in 12 hours. All in a day's work.

I was rudely awakened by a lot of alarm clocks over the years. I went on to have a satisfying career in the airline business, despite competition, management shake-ups, mergers, and the sometimes-fickle flying habits of the public, retiring as a senior captain on a Northwest Airlines DC-10. Just for fun on weekends, I flew Lockheed C-130s for the USAF Reserve's 440th Airlift Wing out of Mitchell Field in Milwaukee.

Shutting the big Allison turbines down on the ramp at ORD, I sit in the cockpit for a moment watching out my side window as the four squared-off paddle blades spin down and slowly stop turning. The night sky was clear, cold, and black, with stars beginning to shine through wispy streaks of high cirrus clouds. I smile, remembering something a wise old NCA captain once said to me at the end of long and trying day when I was starting out. "Cheated death again," he joked. We both laughed.

Every day since I started flying, I was always willing and happy to do that.

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: Mr. Zakos' articles involve creative writing, and therefore the information presented may be fictional in nature, and should not be used for flight, or misconstrued as instructional material. Readers are urged to always consult with their personal flight instructor and others about anything discussed herein. ❑

Smokeout 2021

by Patrick J. McDonald, ATP, CFI-I

The time is late summer of 2021, and for months, my only living brother and I had anticipated another carefree sightseeing flight to the great west. Our plan was to fly to Billings, Montana, then over Lemhi Pass of the Continental Divide into the Salmon River Valley. From there, we would enjoy another whitewater rafting trip down Idaho's Salmon River, the *River of No Return*.

Stagnant air, flavored with the irritating smell of burning wood, haunted the Midwest for a solid week, but on the morning of August 5th, we departed Perry, Iowa, in my Piper Arrow. The first hundred miles were VFR, but with declining visibility. I remarked to my brother that this slight inconvenience is probably due to the stubborn wildfires in the far west, and that we'll likely be in clear skies all the way to the mountains.

I support my comment with the data that every ASOS, AWOS, and ATIS from Perry to Salmon broadcasted clear skies with 10-mile visibilities.

An hour and a half later, we jointly squinted to penetrate the haze and spot the runway at Mitchell, South Dakota. Our landing was uneventful, but the temperature was approaching 100 degrees as we taxied to the gas pump.

"Foul today, but at least we're still VFR," said our lineman as he activated the 100LL fuel pump. "Not so the case the last three days….all IFR. No traffic. We had folks hung up here for three days on their trip back home from Oshkosh. No rooms were available in Mitchell."

"Ya know that foul smell?" he asked as he pointed to his nose and looked skyward. "It really gets to me. I have to shower every night to get rid of that rotten bonfire stench. Even my food tastes like it's burnt."

His comments fostered the beginning of a slow energy drain that deepened as we departed Mitchell for Rapid City. The ground disappeared in the first thousand feet of our climb out. ATC guidance assisted us all the way to the active runway at Rapid City. The heavy smoke deprived us of the expansive beauty of the Black Hills. The AWOS informed us that the noonday ramp temperature was now 100 degrees-plus, and the visibility holds at 10 miles.

Airborne again in a deepening complexity of challenges, fresh ATC controllers helped us thread the needle between the multi-layered Powder River MOA and the Bighorn Mountains. I catch only a glimpse of the normally massive Bighorns, now wrapped in heavy smoke, and punctuated by developing thunderstorms. Sheridan is reporting erratic 50-knot surface winds.

The mix of opposing forced taunt us with heat, humidity, and complaints of moderate to severe turbulence from low to high altitudes. After two hours of hot and claustrophobic flight conditions, Billings approach control politely delivered our soggy and fatigued selves to the active runway. ATIS insisted on 10 miles visibility, but we didn't spot the runway numbers until on a half-mile left base.

A cool motel room and cold beer brought back some enthusiasm for flying. We were reminded by torrential rains and rolling thunder that we are in control of very little, but we were safe. The anticipated morning flight across the Continental Divide and into Salmon didn't seem promising. In good VFR, the route is expansive and enjoyable, since most of it meanders through a long network of scenic passes, with snow-capped peaks accenting the boundaries of clear running rivers and lush green valleys.

Even though sleep brings rest and renewed energy for pressing on to Salmon, the early morning weather reports brought with them serious safety concerns. Our familiar route now manifested five new fire zone TFRs. The mountain peaks all along our route became obscured in smoke. Hazardous warnings about three to six miles visibility were prominent. My personal limitations came alive. Going IFR into Salmon without a turbocharged aircraft is out of the question. Thus, we sadly decided to turn around and head back to the Midwest.

All the way home, through a new round of fires, smoke and haze, I cannot help but reflect on what is happening to our planet. I accepted, at an intellectual level, the now-universal assessment of the global warming phenomena. As I worked hard to stop my eyes from itching and to suppress a nuisance cough, my encountered with global warming move to the experiential level. We exited Montana and began to see the greening of central South Dakota. An hour later, we crossed the Missouri River to witness an emerald landscape and clear air. We're home.

In Retrospect

In the year since my adventure, a lot has happened to foster a conviction that personal safety rules yield eventual rewards. My brother and I enjoyed a return to the river of no return in the early summer of 2021, under widespread

pleasant conditions.

Other news from the summer of 2021 in the Billings area was not so easily redeeming.

About a month after we returned to the Midwest, an experienced pilot and his spouse died in a small plane crash in Billings.

Their son survived, but with serious burns and the prospect of a long and painful rehabilitation without the love of his mom and dad to help him reclaim his health. From reading the NTSB preliminary reports, it seems that visual obscurity at dusk and poor judgment were factors in the accident.

In the late summer of 2021, in the many hours of casual debriefings at our home base, a friend who is a professional pilot regularly shared his take on our common experiences. He, too, had been smoked out of a backcountry camping trip. He experienced a serious and stubborn bout with vertigo, while living his dream of navigating the backcountry in his beautifully restored Cessna 180. His Dutch decisiveness invited him to return home before dangerous conditions destroyed his dreams. He was later redeemed as the flight conditions in the summer of 2022 allowed him to return to the backcountry for a week of carefree flying and camping.

In the hours of our casual debriefings, several lasting impressions have left their marks on us. The marks deepen our experiences of what it means to hold a pilot certificate and continue to fly a personal aircraft: once in a lifetime is enough for bad experiences; there is never enough in a lifetime of good experiences.

We mourn the loss of those who have not been so fortunate about their decisions. There is no room for arrogance that conveys, "it can't happen to me."

Patrick J. McDonald

EDITOR'S NOTE: Patrick J. McDonald has been a member of the aviation community for 53 years, and in that period of time, he has logged 8400 hours. He has helped many students obtain various flight certificates. He has done it all for pure enjoyment. He is formally a licensed mental health practitioner and maintains an active practice in Des Moines, Iowa, in partnership with his wife of 48 years. ❑

Aeronautics Report

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Meet Max Platts
Aeronautical and Technical Services Section Chief

Max Platts joined the Wisconsin Bureau of Aeronautics (BOA) as Aeronautical and Technical Services (ATS) Section Chief in October 2022, following Scott Brummond's retirement in July after 25 years with the Wisconsin Department of Transportation. The section Max leads has 12 team members who manage over a dozen unique programs. The section works with and serves not only the Engineering and Program sections within the Bureau, but also a wide variety of external aviation partners and stakeholders. The ATS section focus areas are aviation safety, operational support, compliance, process improvement, as well as education and outreach initiatives.

Max Platts

Max comes to BOA from the Washington State Department of Transportation Aviation Division where he led the state's aviation land use planning efforts and was project manager on numerous studies and division initiatives. Prior to state service, Max worked for CubCrafters in Yakima, Washington. There, Max helped develop the builder assist program for their incredibly popular Carbon Cub FX series and performed production test pilot and ferry pilot duties. Before moving to Washington state, Max worked at EAA in Oshkosh serving in various roles including Vintage Aircraft Association Administrator and Museum Educator.

Originally from Wyoming, Max holds a Bachelor of Science Degree in Business Administration from Lewis-Clark State College, along with an Associate Degree in Aviation Flight Science from Casper College. He also holds a Commercial Pilot Certificate and Instrument Rating.

After relocating from Washington state, Max and his wife, Tobie, live in Oregon, Wisconsin. Their hobbies include flying, hiking, and camping. They own a 1955 Cessna 170B and are looking forward to exploring Wisconsin by air.

You can reach Max at **608-266-1745** or **thomas.platts@dot.wi.gov**. ❑

Register For The WisDOT Airport Operations & Land Use Seminar

For the first time since 2019, the Wisconsin Department of Transportation Bureau of Aeronautics (BOA) will hold a two-day Airport Operations & Land Use Seminar designed to help anyone responsible for managing or developing our state's airports. The 2023 Seminar will take place Wednesday, April 12th, and Thursday, April 13th at the Hotel Mead in Wisconsin Rapids.

Airport managers, airport owners, airport committee members, airport consultants, and anyone else who has an interest in Wisconsin airports are encouraged to attend. There's no better opportunity to interact with FAA officials, BOA staff, and learn from industry professionals.

For more information about the seminar, and to register, visit **wisconsindot.gov/avtraining**. Registration deadline is April 5th.

Hope to see you there! ❑

Fly Wisconsin Airport Passport Program

In 2017, the Wisconsin Airport Management Association (WAMA) and Wisconsin Department of Transportation (WISDOT) teamed up to launch the "Fly Wisconsin Airport Passport Program." The program rewards pilots and passengers for flying into Wisconsin airports, attending FAA safety seminars, and visiting Wisconsin's aviation attractions. Participation in the program is free and open to all pilots and passengers from any state or country.

So far more than 2,300 people have registered to participate in the program. As of the end of 2022, 33 aviators have completed the entire program and earned the coveted leather jacket. Many more pilots have earned the flight bag and t-shirt. A full list of award winners from the last three years can be found to the right.

To join the program or review updates to the rules and stamp locations, visit: **wisconsindot.gov/flywi**.

Also, join us on Facebook at: **facebook.com/groups/flywi**.

2020

Gold	Silver	Bronze
Lyle Banser	John Alferi	John Alferi
Paul Buss	Lyle Banser	Lloyd Anderson
Alan Downs	Paul Buss	Lyle Banser
Daniel Fulwiler	Beth Clabots	Paul Buss
Larry Gordon	Julie Clabots	Alan Downs
Russell Kinneberg	Gerald Clabots	Mary Fulwiler
Tony Lamers	Greg Clabots	Larry Gordon
Dan Marlenga	Alan Downs	Jackie Gustafson
Bill Pulkinen	Larry Gordon	Randolph Gustafson
Dan Schmid	Tony Lamers	Tony Lamers
Dan Silvers	Timothy Lemke	Eugene LeClair
Mark Wrasse	Dan Marlenga	Timothy Lemke
	Dan Schmid	Dan Marlenga
		Ernest Mcfeeters
		Milena Mcfeeters
		Brian Natoli
		Mark Schenkat
		Addison Tower

2021

Gold	Silver	Bronze
John Alferi	Sue Meise	Carol Davis
Timothy Lemke	Douglas Osborn	Tom Davis
Douglas Osborn	Mark Peterson	Rebecca Formella
Mark Peterson	Philip Peterson	Andrew Formella
Philip Peterson	Addison Tower	Robert Martier
Igor Zhukov	Edward Treml	Mark Peterson
	Igor Zhukov	Philip Peterson
		Charles Read
		Sara Siddiqui
		Bob Vajgrt
		Dawn Vajgrt
		Igor Zhukov

2022

Gold	Silver	Bronze
Stephen Benesh	Stephen Benesh	Stephen Benesh
Gerald Clabots	Dean Forrest	Scott Catlin
Greg Clabots	Jan Lee	Lisa Davis
Dean Forrest	Patrick Lee	Dennis Davis
Sue Meise	Pat Lee Jr	David Dunn
Anastasiia Shevchuk	Anastasiia Shevchuk	Gail Dunn
Edward Treml		Dean Forrest
		Mathieu Labs
		Lauren Labs
		Jan Lee
		Patrick Lee
		Pat Lee Jr
		Anastasiia Shevchuk

❑

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.
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P.A.P.I. Maintenance – Q & A

by Casey Carlson
MnDOT Aeronautics, Airport Electrical Administrator


Casey Carlson

Precision Approach Path Indicator (PAPI) lights at an airport are a very important navigational aid. They are the type of navaid that a pilot might not utilize on a bright sunny day, but on a foggy or snowy day, PAPI lights can be essential.

From the maintenance perspective, can maintenance personnel just "set it and forget it" when it comes to PAPI lights? The short answer is, "no." The FAA Advisory Circular 150/5340-26C establishes maintenance intervals for PAPI lights and provides direction to maintenance crews on how often PAPI lights and their components need to be checked. If an airport's PAPIs are not being periodically checked, they can begin to stray from their intended angles. When PAPI lights stray from their intended angles, they could give bad information to a pilot on final approach. That's why it's so important for airport maintenance crews to keep PAPI lights adjusted properly for pilots. A pilot is expecting the PAPI lights to either be set correctly or taken out of service.

What type of issues does an airport manager or maintenance personnel encounter? Let's look at some common questions that MnDOT receives about PAPI lights:

How often does airport staff have to check a PAPI to ensure that it's sending the right information to a pilot?

For this answer, let's look at the chart from Advisory Circular 150/5340-26C

Does the FAA require a flight check at the time of commissioning?

FAA JO 6850.5D states:

(a) A flight inspection is not required for VASIs and PAPIs used for VFR approaches only.

(b) A commissioning flight inspection is required for a new VASI or PAPI associated with an instrument approach procedure.

For PAPIs with associated instrument approach procedures, are the PAPIs ever required to be flight checked again after the initial commissioning has been carried out?

The short answer is, "yes." FAA JO 6850.5D specifies several reasons that a restorative flight check would be required. A couple (but not all) of the reasons for a restorative flight check would be:

(a) When a PAPI fixture has been physically relocated.

(b) When the reference angle is changed due to an obstruction. An example would be a construction crane at a nearby jobsite which infringes into a clearance area.

What causes PAPI systems to fall out of adjustment and shut off?

PAPI systems can come out of adjustment for any number of reasons. Obviously, any time that anyone accidentally strikes a PAPI fixture with a mower or snowplow, there is a large risk of knocking them out of adjustment. In Minnesota, the most common need for an adjustment is the mere fact that the ground moves a lot in our state. The freeze-thaw cycles can move concrete piers that are large and deep in the ground.

What is the proper procedure for checking angles and adjusting PAPIs?

The best advice for adjusting PAPIs is to not make adjustments unless you are sure that you understand the process. Take the time to read through the manufacturer's adjustment method so that you perform the adjustments properly. Alignment methods differ from brand to brand. For the most part, the instructions are available online at the click of a mouse. If you follow the manufacturer's procedure, you will have the PAPI fixtures aligned properly in short order.

An experienced pilot has stated that the PAPIs "seem off." Does the pilot know what they're talking about?

Input from pilots should never be ignored. Pilots use many different instruments, and their years of flight experience preparing to land their aircraft are invaluable. Anytime a pilot provides feedback about how your airport's PAPI system is operating, take your alignment equipment out and check it all out. Remember that the next pilot might be relying on the accuracy of the PAPI for their landing.

Any advice for airport managers?

MnDOT encourages all airport managers to take their PAPI aiming equipment out and measure the angles of their airport's PAPI fixtures. However, don't plan to make any adjustments until you are aware of the process; but do try out the equipment, and as questions arise, learn. The practical experience gained will provide understanding of the equipment and some insight into what is required when it's time to realign those angles. ❑

Annual conference offers continuing education for aircraft maintenance technicians

A new report from the Aviation Technical Education Council (ATEC) finds that a healthy but expected increase in newly certified aircraft maintenance technicians last year did not offset the number of certificated mechanics lost during the pandemic – leaving the national new-technician pipeline at least 20 percent below the levels needed to meet rising demand across civil aviation. The global aviation maintenance industry was facing a shortage of certified mechanics before the pandemic, and the Minnesota and U.S. market was no exception. The downturn's ramifications mean meeting demand now will be even more challenging.

The latest edition of the ATEC Pipeline Report, produced annually to chart U.S. airframe and powerplant (A&P) mechanic workforce trends, found that 6,929 individuals obtained their FAA mechanic certificate in 2021 – that's a 33 percent increase from the previous year. While the jump was the biggest in recent history, the increase left the total number of new mechanics short of 2019 levels and did not make up for the previous year's 30 percent drop in certifications.

As air traffic increases and aircraft come out of storage, aviation technicians will play a vital role in inspecting, repairing, and restoring them to airworthiness. Technicians are critical to operational safety, and they play a key role in supporting the aviation industry's recovery.

Boeing's Pilot and Technician Outlook 2022-2041 projects that "Over the next 20 years, 610,000 new technicians will be needed to meet demand from fleet operators and providers of maintenance, repair, and overhaul services. The combination of fleet growth, attrition, and replacement will continue to drive high demand for the foreseeable future."

Training and aviation careers in Minnesota

Continued educational outreach efforts are necessary to increase the knowledge of careers in aviation. To increase this awareness for careers in aviation, especially aircraft maintenance technicians, MnDOT Aeronautics, the FAA and St. Cloud State University are cosponsoring the **2023 MN Aviation Maintenance Technician and IA Renewal Conference, March 13-14, 2023**, at the Heritage Center in Brooklyn Center, Minnesota.

The conference attracts aviation maintenance professionals, including college and university students, from Minnesota and around the country for continuing education credit, networking, and Inspection Authorization renewal. The conference offers 11 hours of training over one and a half days. Attendees can earn their eight hours of FAA-required annual accredited training toward their IA certification. There are concurrent sessions that provide aircraft maintenance related topics. The FAA will be on-site to collect the required paperwork for training certification.

The annual aviation technician conference also showcases over 50 industry exhibits featuring the latest and best in aviation projects, technology, and services, along with career recruiting opportunities.

The **2023 Aviation High School Career Forum** will coincide with the maintenance technician conference, at the same location, on **Monday, March 13 from 9:00 a.m. – 3:00 p.m.** This forum takes high school students, their parents and "new to aviation" participants on a high-flying journey through a comprehensive overview of how to get from point A to point B, C, or D in an aviation career. Students hear firsthand from professionals involved in the industry and learn their "how I get there" stories.

The free High School Career Forum is geared towards students (ages 16-18), introduces young people to the vast array of career opportunities within the aviation industry, and educates students on the brink of making college and career decisions. The forum consists of aviation industry leaders, vendors, guest speakers, amazing prizes, demonstrations, and – scholarship information. Students will leave this forum with many questions answered and with resources to seek the right answers to design a path to help their career goals.

To register for the Aviation High School Career Forum, or the Aviation Maintenance Technician and IA Renewal Conference, visit **www.scsutraining.com/2023amt** or email **Darlene.Dahlseide@state.mn.us**. ❑

Wisconsin DOT Secretary Craig Thompson Elected AASHTO VP

WASHINGTON, DC – The board of directors of the American Association of State Highway and Transportation Officials unanimously elected Craig Thompson – Secretary of the Wisconsin Department of Transportation – as its 2022-2023 vice president on January 5. Thompson replaces former AASHTO Vice President and director of the Michigan Department of Transportation, Paul Ajegba. Ajegba retired at the end of 2022 after a 31-year transportation career.

Craig Thompson

"AASHTO plays an important leadership role in America's transportation system," Thompson said. "From delivering cutting-edge research to promoting highway safety to providing a platform for states to learn from one another, AASHTO's services are vital to Wisconsin and to state transportation agencies nationwide. It's an honor to be elected vice president."

Wisconsin Governor Tony Evers (D) named Thompson – who has more than 26 years of experience working with Wisconsin businesses, communities, legislators, and units of government – as Wisconsin DOT secretary in January 2019. In his role at WisDOT, Thompson leads more than 3,200 employees that support all modes of transportation, including state highways, local roads, railroads, public transit systems, airports, and harbors, as well as the Division of Motor Vehicles and the Division of State Patrol.

Thompson previously served as executive director of the Transportation Development Association or TDA of Wisconsin. Prior to leading TDA, he served as the legislative director for the Wisconsin Counties Association, managing legislative initiatives at the state and federal levels.

Thompson is a native of Racine, Wisconsin, and a graduate of the University of Wisconsin-Madison. He lives in Madison with his wife, and they have a daughter and a son. ❑

Claude E. Sonday, III

August 16, 1947 ~ November 25, 2022

WONDER LAKE, ILL. – Highly respected Chicago-area aviator, Claude Sonday, passed away November 25, 2022, in Wonder Lake, Illinois. He was born August 16, 1947, in Chicago to Claude and Lorraine Sonday, where they lived on a houseboat for the first few years of his life.

Claude was a motorcycle and airplane enthusiast. He and his wife, Diane, were business partners for over 50 years and owned and operated Galt Airport in Wonder Lake, and previously owned Woodstock Harley, Dekalb Harley, Des Plaines Honda, and On Any Sunday Kawasaki.

The Sondays traveled extensively throughout the world on motorcycle trips sponsored by motorcycle manufacturers, including trips to Africa, Europe, Asia, and Tahiti, and rode their motorcycles to Sturgis, South Dakota for that town's annual motorcycle rally. While riding on a Pacific Coast Honda Motorcycle, Claude and Diane traveled across Highway 101.

Claude is survived by his wife of 51 years, Diane; siblings, Sonnie (Daniel) Penkava, Mark (Joyce) Sonday, John (Kim) Sonday, and Terry Sonday; and many nieces, nephews, and good friends. He was preceded in death by his four brother-in-laws. ❑

Welcome To Galt Airport - 10C

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

Galt began his involvement in aviation with a plane ride to a favorite fishing spot. Arthur and Vera Galt were impressed by that first flight and the time it saved them in getting to the secluded location that previously had been hours away by car.

Not long after that first flight, Galt purchased his first airplane, learned to fly, and used his farm field as a landing strip. Other pilots soon began landing at Galt's field. In short order, they were needing fuel and mechanical services.

The Galt farm became more of a gathering place for aviators, and less of a place for dairy cattle. In the early 1960s, Galt built hangars and laid down a 3,000 by 50 ft asphalt runway to compliment the north/south grass strip. One Zero Charlie appeared on FAA sectionals and the rest, as they say, is history.

If you haven't been to Galt Airport lately, stop on by! The airport's stocked fishing pond, fire pit, and walking trails are available to tenants. They can go fishing in the afternoon or take a relaxing walk around the airport's beautiful grounds. Even on days pilots can't fly, there's always something to do at Galt Airport. EAA Chapter 932 is very active and coordinates year-round family-friendly events. ❑

MSP Selects Artist For Next Major Public Art Project

Artist Kipp Kobayashi Will Create Work For Two-Story Concourse Rotunda

MINNEAPOLIS-ST. PAUL, MINN. – Internationally renowned artist Kipp Kobayashi has been selected to design and install a centerpiece artwork within the new two-story G Concourse Rotunda at Minneapolis-St. Paul International Airport (MSP), the 16th busiest North American airport by passengers.

Kipp Kobayashi

The Metropolitan Airports Commission (MAC) Board gave final approval to the contract for the art project, endorsing the unanimous recommendation of the MSP Arts and Culture Steering Committee. The yet-to-be-designed artwork will be installed in the recently expanded east-end of the G Concourse in Terminal 1.

Kobayashi is a Los Angeles-based artist, teacher, and art advocate with a background in urban planning. His public art can be seen in museums and other public spaces across the country. His work focuses on human activity—the impressions and energy left behind on structures and systems, layer upon layer.

"I am extremely honored and thrilled to have been selected for this commission," said Kobayashi. "I am especially excited about engaging with the Minneapolis-St. Paul community and to explore the possibilities of the two-story rotunda space. Functioning as a connector, it provides the opportunity

The new two-story rotunda in the G Concourse at Minneapolis-St. Paul International Airport will feature artwork by late 2023 or early 2024.

to include multiple narratives into an artwork that can be experienced differently depending on from where and when one experiences it."

According to Ben Owen, Director of Arts@MSP, Kobayashi's many public and private art commissions demonstrate his unique talents working with multi-media in collaboration with architects and engineers. "Kobayashi's urban design focus, extensive research and personal interaction in the field will shape his engagement with citizens here to explore a design concept that will, no doubt, inspire travelers and highlight new interpretations of Minnesota and our communities," said Owen.

The new art installation is part of a project that added 50,000 sq. ft of new public space that includes the new rotunda, larger gate areas (G17 to G22), additional space for five new food and retail venues, and a future Delta Sky Club® lounge.

"The G Concourse rotunda was designed from the start to anchor a hanging art piece that we hope will amplify a memorable sense of place and inspire our travelers and visitors to explore our region's culture, environment and history," said Brian Ryks, CEO of the MAC, which operates MSP Airport. "This artwork will complete the newly renovated concourse project and further enhance MSP's welcoming experience."

The Airport Foundation MSP administers the Arts@MSP program in partnership with the MAC. Funding for the project will come from the airport's percent for arts program—a dedicated source of funds for art from public-area capital projects. The G Concourse Rotunda art project is budgeted not to exceed $600,000.

"This is a dynamic time for arts and culture at MSP and we're excited to see how Kipp Kobayashi will put his creative mark here in the Midwest," said Rick King, Chair of the MAC. "This latest commission will join a list of 16 other public art pieces that have been commissioned for the airport in the last three years."

Kobayashi was selected from MSP's public artist roster. He will begin a community engagement process to inform his design process in early 2023. The ultimate design will be finalized by mid-2023, with installation set for late 2023 or early 2024.

About The Metropolitan Airports Commission (MAC)

The Metropolitan Airports Commission (MAC) owns and operates one of the nation's largest airport systems, including Minneapolis-St Paul International (MSP) and six general aviation airports. The MAC's airports connect the region to the world and showcase Minnesota's extraordinary culture to millions of passengers from around the globe who arrive or depart through MAC airports each year. Though a public corporation of the state of Minnesota, the organization is not funded by income or property taxes. Instead, the MAC's operations are funded by rents and fees generated by users of its airports. For more information, visit **www.metroairports.org**. ❑

(L/R) Sandra Shore, St. Louis Downtown Airport; Daniel Adams, St. Louis Regional Airport; Rhonda Hamm-Niebruegge, St. Louis Lambert International Airport; Bryan Johnson, MidAmerica St. Louis Airport; John Bales, Spirit of St. Louis Airport; and Mary Lamie, Executive Vice President of Multi Modal Enterprises for Bi-State Development, and head of its St. Louis Regional Freightway Enterprise.

St. Louis Region's Five Busiest Airports Support 36,500 Jobs & Deliver More Than $10 Billion In Annual Economic Impact

ST. LOUIS, MO – The directors from five busy airports in the St. Louis region say the collaboration that takes place amongst their airports is unique in the aviation industry and a model for success – accounting for more than 36,500 jobs (between airport operations and tenants) and generating a collective annual economic impact that exceeds $10 billion and is growing.

The five airports contributing to those totals include St. Louis Lambert International Airport and Spirit of St. Louis Airport in eastern Missouri, and three southwestern Illinois airports – St. Louis Downtown Airport, MidAmerica St. Louis Airport and St. Louis Regional Airport.

The airport directors participated in a special panel discussion hosted by the St. Louis Regional Freightway on November 16, 2022. The panelists were Rhonda Hamm-Niebruegge from St. Louis Lambert International Airport, John Bales from Spirit of St. Louis Airport, Bryan Johnson from MidAmerica St. Louis Airport, Sandra Shore from St. Louis Downtown Airport, and Daniel Adams from St. Louis Regional Airport.

"This discussion helped raise awareness of the region's robust aviation industry that is defined by these airports, their tenants and the aerospace products and parts manufacturing industry," said moderator Mary Lamie, Executive Vice President of Multi Modal Enterprises for Bi-State Development and head of its St. Louis Regional Freightway Enterprise. "The region's aviation industry has evolved through good and bad times and is highlighted by targeted efforts that focus on operations, infrastructure investment, industry leadership and expertise, and a proven track record for career development and job opportunities."

To provide greater context for the career opportunities in

the aviation industry, Lamie highlighted that:

- The St. Louis MSA has 3.85 times the U.S. average number of aerospace jobs based on the size of the region.
- Based on the payroll and job creation from the three Illinois airports participating in the forum, the average compensation (including benefits) for an airport-related job, is $80,000 a year.
- The average wage for an aerospace job in the region is right at $116,000 a year - proving the significance of continuing to grow that base and invest in airport infrastructure.

Panelists talked about the tremendous career opportunities in the industry and collaborative efforts to help build and support the aviation and aerospace jobs pipeline. Boeing is expanding at MidAmerica St. Louis Airport and will create at least 150 to 200 more jobs. West Star Aviation currently has approximately 40 positions available and additional expansion plans in the works at St. Louis Regional Airport could drive that number higher. Gulfstream is expanding its operations at St. Louis Downtown Airport and will be adding 140 new jobs. Events such as St. Louis University's Summer Academy and Girls in Aviation Day at St. Louis Downtown Airport and the Spirit of St. Louis Air Show and Stem Expo continue to play a key role in attracting youth to the aviation industry.

St. Louis Lambert International Airport (STL) is the region's busiest airport that today accounts for 7,000 jobs in the region. A new economic impact study underway is anticipated to reveal that the airport's impact has grown from the $4.2 billion reported in 2013 to more than $6 billion. Hamm-Niebruegge called attention to the fact that, aside from being the largest airport in Missouri, St. Louis Lambert International Airport ranks as the 32nd largest out of 450 commercial airports in the country. She added the airport is not just focused on passenger traffic, but on expanding all streams of revenue. She said the amount of cargo moved has doubled from 125 million pounds in 2016 to 251 million pounds in 2021, with much of that increase driven by the growth of Southwest and the belly cargo that Southwest can carry because it has so many flights per day from St. Louis Lambert International Airport. Hamm-Niebruegge also discussed the recent creation of a U.S. Department of Agriculture (USDA) port of embarkation at her airport that allows live animal charters. While Chicago also has such operations, word is getting around that St. Louis Lambert International Airport is far more efficient and easier for the handlers. Lufthansa's new direct flights from St. Louis to Frankfurt, Germany were also highlighted. Launched in June 2022, the new service marked the first direct flights from St. Louis to Europe in 20 years.

Hamm-Niebruegge said the biggest project on the horizon for St. Louis Lambert International Airport is the proposed consolidation of the existing two terminals, plans for which she hopes can come to fruition in the next 12 to 14 months. If everything moves forward, construction could start in 2026 on a single consolidated terminal that would carry the region well into the future.

Hamm-Niebruegge offered a glimpse into the working relationships between the five airport directors, which she said is more collaborative than competitive because of the unique niche each has in the industry. "When you put the greater group together and you think about the offerings we have, if you're a customer in this region, you have a choice of going just about anywhere."

Spirit of St. Louis Airport (SUS) in Chesterfield, Missouri, has more than 3,000 employees onsite between airport operations and tenants and a total annual economic impact that exceeds $400 million. Bales said the airport has nearly 400 based aircraft, 100 based jets, a full-time customs support center, three FBOs, a variety of customers and maintenance operators, as well as many corporate flight departments and charter operators. Prior to COVID, Bales said the airport was averaging almost one international flight a day, something most people likely would not know.

He said as much as the Arch is the gateway to the west, he sees aviation as a gateway to the world and considers Spirit of St. Louis Airport to be the business aviation center of the Midwest.

'The charter operators did really, really well during COVID, and they continue to do well," said Bales. "People that maybe had the means but had never tried it, tried it and liked it. It's been good for us. Takeoff and landings and fuel sales are the highest they've been in 10 to 15 years. The future looks bright for Spirit."

Spirit of St. Louis Airport is just starting its latest master plan. Bales said it will be their roadmap for the future and will guide several very important projects representing an investment in the range of $50 million in the coming years.

St. Louis Regional Airport (ALN) in

East Alton, Illinois, supports more than 1,500 jobs and has an annual economic impact of $480 million. Adams said his airport's role as a general aviation facility brings in business across the aviation spectrum, from Fortune 500 companies to the private aircraft owner, with everything from single-engine and twin-engine aircraft, all the way up to multimillion-dollar corporate aircraft coming for maintenance. That maintenance is provided by the airport's largest tenant, West Star Aviation, which has nearly 600 employees at the airport. It offers any type of maintenance repair on aircraft, from painting to engine repairs and interior work. The airport also has about 120 t-hangars for individuals to store their planes.

"We can serve from your smallest little single-engine plane, up to the largest aircraft that can fly," said Adams. "We're not interested in bringing in the commercial airlines, but we are interested in catering to those private aircraft owners."

More than $7 million in airport improvements are planned at St. Louis Regional Airport for 2023, and Adams said he also is focused on growing both aeronautical and non-aeronautical business at the airport. He noted he would like to attract a flight school, grow fuel sales, and bring back an onsite restaurant as an additional amenity.

MidAmerica St. Louis Airport (BLV) has the unique distinction of operating under a joint use agreement with Scott Air Force Base, one of just 30 joint-use airports in the country, according to Johnson. He said both MidAmerica St. Louis Airport and Scott Air Force Base operate under the same three-letter identifier "BLV," and it is their combined impact that is captured in any economic impact studies. The latest of those by the Illinois Department of Transportation reveals BLV collectively has a $3.1 billion economic impact and supports more than 23,400 jobs. Johnson said MidAmerica St. Louis Airport alone is hitting some new highs when it comes to passengers.

"Some of our efforts certainly are focused on furthering the low-cost carrier model and helping to promote ultra-low cost carriers as well, complimenting what Rhonda and her team do so well over at STL," said Johnson. "We expect to be at construction next year on a new U.S. customs federal inspection station, which will allow for further development of our low-cost carriers that are supporting international travel in and out of the metro area, as well as domestically."

Continuing passenger growth is a contributing factor to the work underway to expand the terminal at MidAmerica St. Louis Airport, and growth on the tenant side is fostering additional infrastructure investment at the airport. Johnson cited the new production facility Boeing is developing on the airport property to manufacture the MQ-25, and a new $37 million taxiway and bridge the airport is building to serve that new facility and other developments likely to spring up around it. The MetroLink light-rail system also is being extended from Scott Air Force Base to MidAmerica St. Louis Airport. That $97 million project will provide a direct connection between St. Louis Lambert International Airport and MidAmerica St. Louis Airport.

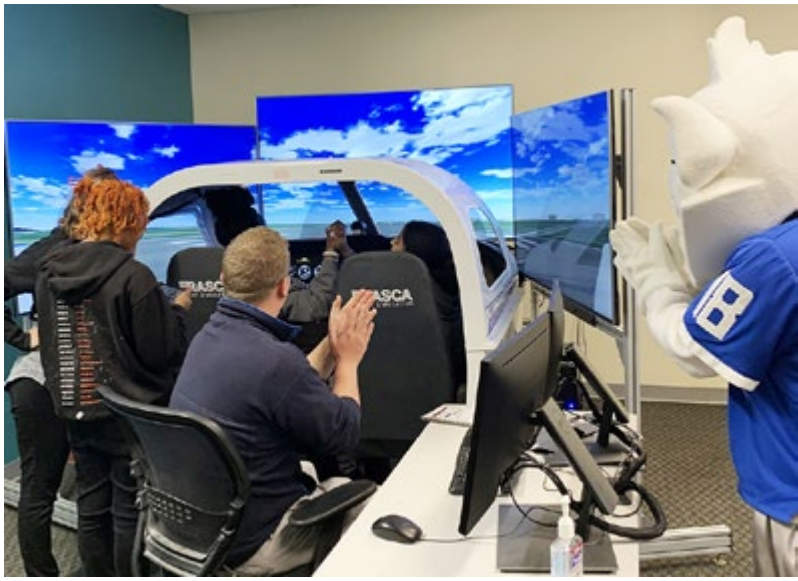
St. Louis Downtown Airport (KCPS) is located in two Illinois municipalities – Cahokia Heights and Sauget, Illinois, and contributes more than $422 million in economic impact for the region and more than 1,500 full-time and part-time jobs. Shore said a variety of users and tenants contribute to those totals, from the single-engine aircraft owner who flys for personal enjoyment and transportation, to business and corporate aviation, three flight schools, several aircraft and helicopter maintenance organizations, plus one of the region's largest maintenance and repair organizations, Gulfstream Aerospace. Gulfstream is one of several tenants that will benefit from the latest infrastructure investment underway at the airport – the construction of a ground engine runup and compass calibration area. The project should be completed in 2023 and will support existing and future high-tech aerospace manufacturing jobs at the airport by improving production safety, reliability, and efficiency.

"I think the most distinctive characteristic of St. Louis Downtown Airport is our close proximity to downtown St. Louis," Shore said. "We're located right across the Mississippi River. And as a general aviation airport without commercial service, we really see us as the front door to the region."

Its invaluable location makes St. Louis Downtown Airport a popular choice for those flying into the region for major events in eastern Missouri and southwestern Illinois, including the NASCAR Cup race this past summer, which Shore said drew 40 charter flights, each with about 50 passengers, over the course of the weekend.

The panel discussion with the five airport directors highlighted the St. Louis region's overall position as a vibrant commercial and general aviation hub in the heartland of the nation. Video of the forum can be found at **https://www.youtube.com/watch?v=R_6poBIKeiY**. ❑

2022 Girls In Aviation Day Ignites Passion For Flight & More



CAHOKIA HEIGHTS & SAUGET, ILL. – More than 100 young women from a dozen bi-state area high schools and Girl Scout Troop 2184 learned about a variety of careers in aviation during the "Girls in Aviation Day" event held at St. Louis Downtown Airport, October 28, 2022. The participants climbed into the cockpits of various aircraft for a unique vantage point and an overview of the instrumentation, and they flew planes in high-tech simulators that enabled them to safely experience the thrill of flight. Saint Louis University's Oliver L. Parks Department of Aviation Science hosted the event at the airport, which is located near downtown St. Louis and has been home to the nation's oldest flight school for decades.

"This event is a great opportunity to introduce the aviation industry to young ladies," said Stephen Magoc, MBA, Chair of Saint Louis University's Oliver L. Parks Department of Aviation Science (SLU). "Most know it's a male-dominated industry, and we think it's important to open these young ladies' eyes to the opportunities that are out there for them. We've got students who come in as freshmen and tell us they went to a Girls in Aviation event and that's where they learned about the opportunities."

In addition to the hands-on activities, the event featured a career expo, where students had the opportunity to connect with representatives from more than a dozen organizations in the aviation industry about different job opportunities and the paths leading to them. Garmin, Greater St. Louis Business Aviation Association, Federal Aviation Administration, Ideal Aviation, SLU Admissions, St. Louis Downtown Airport, KSTL Air Traffic Control, St. Louis-Lambert International Airport, SLU Aviation Student Organizations, Southwestern Illinois College, Take Flight Girls, Inc., Transportation Security Administration, and the United States Army were among those investing their time to spotlight the world of opportunities in the industry. Ideal Aviation, St. Louis Downtown Airport Fire and Rescue and SLU provided the static displays of planes and the firetruck that participants got to see up close. Garmin, Ideal Aviation, St. Louis Lambert International Airport, the Greater St. Louis Business Aviation Association and Gateway Jets sponsored this year's event.

Addalyn Ruesing, 15, a sophomore at Mehlville High School, was excited to visit the flight simulation room and to try something she'd never done before. "It was pretty fun. I thought it was really realistic; like what you'd really see in a plane," said Addalyn, who came to the event without any expectations as to what she might discover. "I'm learning all about the job opportunities and careers in aviation and hearing there or lots of opportunities for women. I'd definitely look into it now."

Alicia Thomas brought her two children to the event – her daughter Lailah Kelly, a 14-year-old freshman student at Cardinal Ritter High School, and her 18-month-old son Major Thomas. While both enjoyed time in the cockpit of one of the planes used by SLU's flight instructors, Thomas said she made the trip primarily to expose her daughter to the career opportunities the aviation sector holds for young women.

Amy Pries, Outreach Coordinator for SLU's School of Science and Engineering, said that is exactly the goal of events like Girls in Aviation. She said it aimed at introducing more young women to the fields of aviation and aerospace, where there is currently tremendous demand for pilots, engineers,

and various other positions.

"We hope to introduce young women of all backgrounds to new aspects of aviation," said Pries. "If they want to be a pilot, we want to support that. If they want to do something else in the industry, we want to support that as well. The airline industry, and aviation industry at large, are not very diverse and they have an opportunity to continue to grow and become more equitable, and there is a place for everyone."

To help bring those opportunities to life for the students, the event featured a keynote address by Kat Charnal, a flight attendant and pilot in training with Delta Airlines.

"I love to push aviation because of the fact that being a pilot, a flight attendant, an aircraft maintenance technician are all skills that most companies are looking for. There's so much value to acquiring those skills," Charnal said. Her key message for participants was to never give up.

"Anything you want to do, anything you set your eyes on, go for it. Don't let the finances stop you. Don't allow the nay-sayers to tell you that you can't do it. Don't allow anything inside of you – you can sometimes be your own worst critic – stop you from pursuing your passions," Charnal said. "I've had that happen to me where I questioned if I was even smart enough to be a pilot, but why was I questioning my own intelligence? I know that I'm intelligent and I know I can do whatever I put my mind to. Don't let anything stop you from accomplishing your goals and achieving your dreams."

A panel discussion with current aviation students at SLU gave the students a chance to hear from other young women who were in the early stages of embarking on a variety of aviation industry careers. Ellie Volansky, an Aviation Management Major and Flight Science Minor, shared her words of encouragement:

"If you know in your heart it's what you want to do and you're passionate about it, you have to tune out the noise. At the end of the day, it's going to pay off. Just keep pushing and surround yourself with the people and voices who do support you," said Volansky.

St. Louis Downtown Airport Director Sandra Shore was pleased to see such a great turnout for the event.

"I could not be more excited about it, especially being a female in aviation myself," Shore said. "The variety of jobs available is a too well-kept secret. Not everybody is a pilot; we have firefighters, airport operations, aircraft mechanics, jobs with the Transportation Security Administration (TSA). In Illinois, alone, aviation a $96 billion industry and that means plenty of jobs. We don't have the pipeline of individuals interested in aviation careers to fill future demand, so getting young students interested is just the seed that we plant that hopefully will change that."

Schools in southwestern Illinois and eastern Missouri that had students attending Girls in Aviation Day included Belleville West Township, Cahokia High School-Cahokia CUSD 187, Cardinal Ritter College Prep, Lutheran High School St. Charles County, Madison Senior High School, Marian Middle School, Mehlville High School, Ritenour High School, Roosevelt High School, St. Margaret of Scotland, Sumner High School, University City High School, and Webster Groves High School.

To learn more about Girls in Aviation Day or opportunities to participate in future events, contact Amy Preis at Saint Louis University's Oliver L. Parks Department of Aviation Science via email at **sseoutreach@slu.edu**.

St. Louis Downtown Airport is owned and operated by Bi-State Development. The airport is located a few minutes east of downtown St. Louis in Illinois on 1,000 acres in Cahokia Heights and Sauget. ❑

Women's Aviation Career Symposium Launches Networking Event For Women Interested In Aviation Careers

BATTLE CREEK, MICH. – The Women's Aviation Career Symposium (WACS) will be held for the fifth year on March 18, 2023. WACS is a professional career conference for women only, from high school juniors to retirees and will take place at Western Michigan University's College of Aviation located in Battle Creek, Mich. Designed to introduce women to aviation and to promote networking, education, and scholarships, WACS takes pride in building up the aerospace community. The WACS event will provide multiple scholarships for aviation education, professional development, flight training, and maintenance training.

"This event is a nexus of education and networking for women interested in aviation. Our attendees will be able to meet dedicated professionals who want nothing more than to elevate the next generation of women in aerospace and take the industry to new heights," said Helen Hagg, co-founder of WACS. "Whether through scholarships or career advice, we are here to be a resource to women who will be the future of our industry."

This multi-faceted event will have space for WACS attendees to meet and network with industry representatives. It will feature information on aviation, aerospace engineering, space, STEM education, and military aviation. Roundtable discussion panels will be held in the morning where attendees can ask questions about different careers and learn about the everyday life of each panelist.

Keynote speaker Tammy "G" Barlette, a retired U.S. Air Force Pilot and Lieutenant Colonel, is set to inspire the next generation of women to persevere and pursue their dreams. Last year, nearly 180 women attended and $32,000 in scholarships were awarded to 16 women. The event drew representatives and professionals from leading companies, including West Star Aviation, Northern Jet Management, Duncan Aviation, L3Harris Technologies, Inc., Jackson National Life, Gulfstream, and Dassault Falcon Jet. Also present were several regional airlines, corporate aviation companies, and schools. The goal of WACS is to provide $40,000 in scholarships this year and advance the aviation industry by promoting local companies, jobs, resources, and schools in Michigan and surrounding Great Lakes states.

For more information or to register for the event, visit: Women's Aviation Career Symposium (WACS) 2023: **www.tinyurl.com/wacs23flyer**.

WACS was founded by three women aviators, Helen Hagg, Mary Poirier, and Pam Tobin, all current or retired corporate pilots. Recently, Tobin has stepped back from WACS and the team has welcomed Pam Catlin, an American Airlines Captain, to the group. Their goals for the symposium are two-fold: advance women in aerospace careers and help alleviate the industry-wide pilot and mechanic shortage through promoting local companies and career opportunities. This event is organized solely through volunteer work and funded through tax deductible donations. For more information contact **wacsmichigan@gmail.com**. ❑

EAA Young Eagles Program Sees A Return To Normalcy

OSHKOSH, WIS. – After two years of decreased participation due to the COVID-19 pandemic, 2022 saw EAA's Young Eagles program rebound and reach tens of thousands of young people through participation in aviation. More than 49,000 youth ages 8 to 17 experienced The Spirit of Aviation this year through a free introductory flight. These flights were all made possible by 4,078 pilots who volunteered their time to help, with 1,159 of those pilots new to the Young Eagles program in 2022. ❑

North Dakota Aviation Association Hosts 3rd Annual FLY-ND Career Expo

BISMARCK, N.D. – The North Dakota Aviation Association (NDAA) has awarded its 2022 scholarships to a group of high school juniors, seniors, and recent GED recipients who plan to pursue advanced education in the field of aviation. NDAA partners with the ND Community Foundation and the aviation community to provide these scholarships to qualifying students.

This year, 11 scholarships were awarded at the 2022 NDAA Fly-ND Career Expo, which was held at the Fargo Air Museum in Fargo, N.D. on October 6th. The event hosted more than 170 students from all over the state and awarded over $13,000 in scholarships. Scholarships were provided by NDAA, the University of North Dakota, and many other local businesses and individuals who support aviation in the state. The 2023 event will take place in the fall at the Dakota Territory Air Museum in Minot.

Additionally, NDAA was recognized by the National Business Aviation Association (NBAA) as this year's recipient of the "Outstanding Excellence by a Local or Regional Group Award." This award was presented to NDAA at the annual NBAA Business Aviation Convention & Exhibition held in Orlando, Fla. in October. NDAA was recognized for its hard work in redefining the association's mission for promoting aviation in the state of North Dakota, the success in implementing aviation career expos and the aviation scholarship program, as well as the outreach and events held throughout the year to engage students interested in this field.

The North Dakota Aviation Association was founded in 1983 by six aviation organizations interested in promoting aviation in the state and presenting their concerns before government and the general public. The organization was founded with the notion that solutions to problems facing aviation can be best served by consolidating and working together, rather than struggling as independent groups. The NDAA seeks to serve aviation professionals by providing a forum for the exchange of information, ideas, and experience among their peers-pilots, agricultural operators, airport managers, FBOs, aviation mechanics, educators, and aviation museums. ❑

Minnesota Hall of Fame Scholarships Are Now Available!

The Minnesota Pilots Association (MNPA) has announced that the window for applying for its 2023 aviation scholarships, is now open.

Each year the MNPA awards three $2,000 scholarships to deserving aviation students. Two of the scholarships are for private pilots or higher, who wish to add an advanced rating or additional certificate. The third $2,000 scholarship is for a student enrolled in a recognized aviation maintenance program or aviation avionics technology program. The scholarships are available to Minnesota residents only!

Applicants should send an essay of 500 words or less and explain why they should be awarded one of these scholarships, and how the money will be used. A letter of recommendation from an instructor, teacher, or mentor should be included. Email both the essay and letter of recommendation to Patrick Halligan at **flyinghooligan@gmail.com**. The deadline for applications is April 1, 2023.

Scholarship information is available at **www.mnpilots.org**.

Additionally, persons interested in establishing a legacy scholarship or contributing to current scholarships, are encouraged to contact Patrick Halligan at **flyinghooligan@gmail.com**. ❑

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 mailed to Bill Mavencamp, c/o St. Cloud Aviation, 1545 45th Ave SE, St Cloud MN 56304. Applications are due **March 1, 2023**. ❑

NBAA Announces New Scholarship To Honor Retired COO Steve Brown

WASHINGTON, DC – The National Business Aviation Association (NBAA) has created the "Steve Brown Leadership Scholarship," in honor of the association's former chief operating officer (COO), who retired in 2022. The scholarship was created by NBAA, in coordination with NBAA Charities, to support students interested in pursuing a career in business aviation who are currently enrolled in programs to achieve this goal. Two awards of $1,500 each will be given out annually.

"The business aviation industry, and aviation as a whole, is better, stronger, safer and more efficient as a direct result of Steve Brown's decades of leadership," said NBAA President and CEO Ed Bolen. "This scholarship will help identify and grow the next generation of leaders who will move our industry forward."

Brown joined NBAA in October 2004 as senior vice president of operations before being named COO in 2010. Prior to joining NBAA, he served for six years as the FAA's associate administrator for air traffic services, and in that capacity, he was pivotal to our nation's response to the attacks on 9/11. Before that, he served as president of the National Aeronautic Association (NAA) and senior vice president, government affairs for the Aircraft Owners and Pilots Association (AOPA). He was a member of the faculty at Texas A&M University, where he taught several aviation-related courses.

Brown also served as chairman of the board of directors of RTCA, a not-for-profit aviation standards organization. Additionally, he served on Aviation Accreditation Board International, where he previously was chairperson and treasurer. He also led many subcommittees for the NextGen Advisory Committee. In 2021, Brown was named to the TSA Aviation Security Advisory Committee, which is tasked with providing recommendations for improving aviation security. NBAA Charities offers monetary and training scholarships for both students and aviation professionals, such as flight department managers, pilots, maintenance technicians, schedulers, dispatchers, flight attendants and flight technicians. These scholarships, which total nearly $100,000 annually, are administered by NBAA standing committees and would not be possible without the generous financial support of NBAA member donors.

To learn more about the numerous scholarship opportunities offered by NBAA Charities, contact Molly Hitch, NBAA senior manager of professional development, at **202-783-9353** or **scholarships@nbaa.org** ❑

William Shatner Receives The "Aviation Inspiration & Patriotism Award" At Living Legends of Aviation

ACTOR/PILOT John Travolta hosted the 20th Annual Living Legends of Aviation awards banquet January 20, 2023, at the Beverly Hilton Hotel in Beverly Hills, Calif. The event honors those who have made significant contributions to aviation/aerospace. This year's presenting sponsors were Ducommun, Sierra Nevada Corp. and Williams International.

William Shatner

A highlight of the event was **William Shatner** receiving the **"Aviation Inspiration and Patriotism Award."** Shatner is a private pilot and is world-renowned for television and film roles including the Star Trek series. He made history as the oldest living person to travel to space when he flew on Jeff Bezos' Blue Origin space shuttle on Oct. 13, 2021.

The list of this year's honorees also included **Mike Silvestro**, the CEO of Flexjet, who received the **"Lifetime Aviation Industry Leader Award"** for his work in the fractional private jet industry… **Tim Ellis**, who received the **"Eren Ozmen Entrepreneur of the Year Award"** as the founder of Relativity Space. Relativity invented a new approach to design, print and fly its own rockets, starting with the world's first 3D printed rocket… **Daniel Drohan** received the **"Kenn Ricci Lifetime Aviation Entrepreneur Award"** having founded Solairus in 2009 after decades of owning successful aviation companies. Under Drohan's leadership, Solairus has one of the largest fleets of managed business jets serving clients worldwide… **Max Lyons** received the **"Elling Halvorson Vertical Flight**

Hall of Fame Award." He is an aviator, business owner, philanthropist and adventurer. In 1999, Lyons and his wife purchased Hillsboro Aviation. He is dual rated in helicopters and airplanes, including commercial instrument helicopters, single and multi-engine airplanes, instrument airplanes, and multi-engine seaplanes… **Mack Rutherford** received the **"Barron Hilton Aviation Inspiration Award."** Rutherford holds the Guinness Book of World Record for being the youngest pilot to fly solo around the world in a small aircraft. He accomplished the feat in August 2022 at age 17. His sister, Zara, who finished her own global flight in January at age 19, currently holds the record for the youngest female to fly solo around the world.

The Living Legends will also welcome new inductees to their ranks:

- **Greg Evans** is an entrepreneur, philanthropist, and lifetime advocate for the business aviation industry. He is the Chairman of the Board of Universal Weather and Aviation, Inc., the first company providing complete mission management services for business aviation.
- **Alan Eustace** is a pilot and Google executive who performed the highest human free-fall, jumping from 135,890 feet up in the stratosphere.
- **Tom Haines** is a former Editor in Chief with the Aircraft Owners and Pilots Association. He has flown more than 100 models of general aviation airplanes.
- **Jared Isaacman**, an American entrepreneur, pilot, philanthropist, and commercial astronaut, led the first all-private citizen crew into orbit. He is also the founder of Draken International, a private air force provider, and Shift4 Payments, a payment processor.
- **HRH Prince Sultan bin Salman** is a former Royal Saudi Air Force pilot who flew aboard the American STS-51-G Space Shuttle as a payload specialist. He is the first member of a royal family to fly in space and the youngest person ever to fly on the Space Shuttle. In 2018, he was appointed as Chairman of the Board of Directors of the Saudi Space Commission at the rank of minister.

As is their tradition, Living Legends also paid tribute to seven Legends who have "Flown West" since the group's last gathering. They include **Sigi Angerer, Joe Kittinger, Dietrich Mateschitz, Major General Carl McNair, Tom Poberzeny, Frank Robinson and Lou Turpen**.

The Living Legends of Aviation are remarkable people of extraordinary accomplishment in aviation and aerospace; they include entrepreneurs, innovators, industry leaders, astronauts, record breakers, pilots who have become celebrities and celebrities who have become pilots. More than 100 men and women from across the globe are among their ranks.

The "Living Legends of Aviation Awards" are produced by the Kiddie Hawk Air Academy, a 501-c-3 non-profit organization. Kiddie Hawk's mission is to educate children about – and spark their interest in – aviation. Visit Livinglegendsofaviation.org for more information. ❑

The National Aviation Hall of Fame Reveals Its "Class of 2023"

Two iconic history-making pilots, two groundbreakers in aviation policy, an Apollo-era astronaut, and a commercial aerospace pioneer, are all included in this remarkable group.

DAYTON, OHIO – The National Aviation Hall of Fame (NAHF) has announced the following individuals who have been selected for the Class of 2023 and looks forward to their pending acceptance and enshrinement at the annual ceremony to be held in Washington, DC in the fall of 2023.

Each year, the NAHF Board of Nominations, a voting body comprised of over 130 aviation professionals nationwide, selects from a prestigious group of nominated air and space pioneers to be recognized for their achievements with induction into the NAHF. Since its founding in 1962, 254 people have been honored with induction into the only Congressionally chartered, aviation hall of fame in the United States.

"We believe that this is an excellent class and we are already looking forward to their induction in Washington, DC," NAHF Board of Nominations Chair Tom Lodge said. "From pioneers Benn and Coffey to visionaries Gittens, Stimpson, and Musk, and to aerospace hero Haise, the NAHF's Class of 2023 represents the best in aviation. We applaud the Board of Nominations for their challenging and thorough work."

The NAHF Class of 2023 is a diverse group representing a broad range of enduring contributions to both the advancement of flight and human exploration of space:

(The late) Velta Benn, aviation pioneer who began as a WASP and went on to fly for over 63 years, amassing 55,000 flying hours as a CFI, FAA Examiner, and safety expert.

(The late) Cornelius Coffey, aviation pioneer who, despite many racial barriers, became a pilot and mechanic who opened a flight school that trained over 1,500 students, including hundreds of Tuskegee Airmen.

Angela Gittens, ground-breaking leader who shaped airport security and policy as the CEO of multiple large-hub airports, including ATL, and Director General of ACI-World.

Fred Haise, U.S. Marine, fighter pilot, test pilot, Apollo astronaut, Space Shuttle astronaut, aerospace executive, and advocate, has had vast influence and experience in U.S. aerospace, and is a best-selling author.

Elon Musk, entrepreneur, leader in commercial aerospace, and the founder of "Space X," the first private company to put crewed spacecraft in orbit and dock with the International Space Station.

(The Late) Ed Stimpson, business aviation legend. For over 40 years, Stimpson served in multiple leadership roles and drove policy in key areas, such as fuel and education, and was essential in the General Aviation Revitalization Act in 1994.

Partnerships, sponsorships, and ticket sales will be available in early 2023. Watch **www.nationalaviation.org** for enshrinement details.

About The National Aviation Hall of Fame- Formed through an Act of Congress in 1964, the National Aviation Hall of Fame (NAHF) is dedicated to honoring America's aerospace pioneers. Considered by many to be a true national treasure, the NAHF serves as the only Congressionally-chartered aviation hall of fame and works tirelessly to confidently promote the vision, innovation, skill, and courage of the national heroes who lent their genius to further our nation's aerospace legacy.

Founded and based in Dayton, OH, the NAHF is committed to informing the public of American aviation heroes, their accomplishments, and their impact on advances in aviation from Early Flight to Space Travel. The NAHF 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. ❑

A-1H Skyraider Now On Display At National Museum Of The USAF

A-1H Skyraider

DAYTON, OHIO – The National Museum of the U.S. Air Force's newest aircraft, the A-1H Skyraider, was placed on display and unveiled to the public during a recent dedication ceremony in the museum's Southeast Asia War Gallery.

U.S. Air Force Skyraiders in Southeast Asia are often remembered for their support of search and rescue (SAR) missions. Operating under the call sign "Sandy," the A-1's extended loiter time and massive firepower offered pilots the ability to protect downed airmen for extended periods. Whereas jet aircraft often had to leave the battle area for refueling, the A-1 provided nearly continuous suppressing fire until helicopters extracted downed airmen.

The aircraft on display, which originally took part in OPERATION FARM GATE and was flown by the South Vietnamese Air Force from 1965 to 1975, was modified and painted by the museum's Restoration Division to represent A-1H pilot Capt. Ron Smith's aircraft, "The Proud American," as it appeared during the "Oyster 01B" rescue mission of a downed F-4 Phantom crewman near a North Vietnamese airfield in June 1972. Smith was later awarded the Air Force Cross for his efforts during the rescue. In addition to the "Oyster 01B" rescue mission, "The Proud American," was also renowned for Lt. Col. William Jones' Medal of Honor mission in 1968 and for being the last U.S. Air Force A-1 lost in combat in Southeast Asia in September 1972.

The restoration of the A-1H, which took about 18 months to complete, was funded through a partnership between the Air Force Museum Foundation and the A-1 Skyraider Association.

According to National Museum of the U.S. Air Force Curator Bryan Carnes, the A-1H is a significant addition for the museum and will help tell an important chapter of the Air Force story.

"The A-1H played a crucial role in protecting downed aircrew in Southeast Asia and escorting rescue helicopters to and from the recovery site," said Carnes. "This aircraft will continue to inspire generations of museum visitors as a symbol of the Air Force's promise that no airmen will be left behind."

The National Museum of the U.S. Air Force, located at Wright-Patterson Air Force Base near Dayton, Ohio, is the world's largest military aviation museum. With free admission and parking, the museum features more than 350 aerospace vehicles and missiles and thousands of artifacts amid more than 19 acres of indoor exhibit space. Each year thousands of visitors from around the world come to the museum. For more information, visit **www.nationalmuseum.af.mil**. ❑

National Museum of the USAF Celebrates 100th Anniversary In 2023

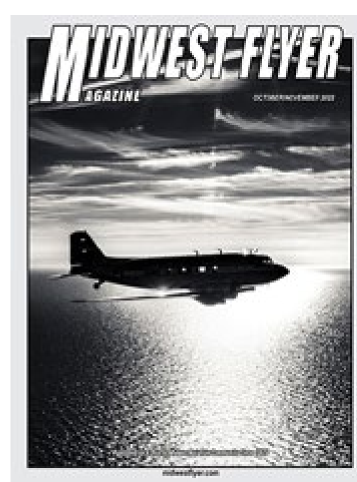
DAYTON, OHIO – In 2023, the National Museum of the U.S. Air Force is celebrating its 100th anniversary as the world's oldest and largest military aviation museum.

The museum will commemorate this major milestone anniversary with events and exhibits that celebrate its humble beginnings as a small engine study lab at McCook Field, through its growth to more than 19 indoor acres housing more than 350 aerospace vehicles and missiles, and thousands of artifacts. The museum's vast collection highlights the evolution of flight and the history and establishment of the U.S. Air Force as an independent service.

"Celebrating 100 years is a significant milestone in the history of any museum," said National Museum of the U.S. Air Force Historian Doug Lantry. "The growth we have experienced over the last century is directly attributed to the Air Force's wise commitment to preserving its heritage and the tremendous support we receive from our local, national and international communities. It's going to be an exciting year as we celebrate in style with events and exhibits that will appeal to the whole family."

Details about special events and activities are available on the museum's website: **https://www.nationalmuseum.af.mil/**.

The National Museum of the U.S. Air Force, located at Wright-Patterson Air Force Base near Dayton, Ohio, is the world's largest military aviation museum. ❑



CubCrafters Acquires Summit Aircraft Skis

A Summit Ski-equipped Carbon Cub FX-3 explores the wintertime backcountry in the state of Washington.
Photo Courtesy of CubCrafters

YAKIMA, WASH. – CubCrafters, the leading designer and manufacturer of Part 23 certified, light-sport, and experimental backcountry aircraft, has announced the acquisition of Summit Aircraft Skis, including the company's design and manufacturing assets, unique patents, and related intellectual property, from the Summit Aircraft Corporation of Sandpoint, Idaho.

Summit Aircraft Skis are favored by Carbon Cub aircraft owners and preferred by the owners of many other types of non-CubCrafters manufactured backcountry capable aircraft. The unique ski design allows pilots to quickly and easily configure their aircraft to fly to many remote and primitive areas that would otherwise be inaccessible in winter when runways are not maintained.

Custard, founder of Summit Aircraft Corporation, observed that unlike other more traditional industry products, the innovative Summit Ski design utilizes a patented bolt-on attachment bracket that completely eliminates the need to weld skis to the landing gear. The Summit ski design also offers lower weight and lower profile aerodynamics than most competitors' penetration skis.

The strategic acquisition brings together the talent of CubCrafters and Summit Ski to promote a robust patented design that significantly improves value for consumers. Manufacturing of skis has already begun in Yakima and going forward Summit Skis will continue to be available on both CubCrafters aircraft and competing aircraft from other manufacturers as well.

"Summit Skis, when combined with the outstanding wintertime defrost and cabin heater technology used on our FX-3 model, makes that aircraft the ultimate ski airplane." stated Brad Damm, CubCrafters' vice president. "The acquisition is part of an ambitious growth and business development strategy that has been supported by the outstanding early success of our recently announced public stock offering."

Founded in 1980 by Jim Richmond, CubCrafters' roots are in the 80+ year history of classic grassroots aviation, but the company's products and services are innovative and completely modern. ❑

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

17-19* Buckeye (KBXK), Ariz. - The AOPA Fly-in at the Buckeye Air Fair. During this 3-day event, experience world-class educational content from one of our three seminar venues! Hear from leading experts in industry and safety—even hear from Mark Baker at the Pilot Town Hall on Saturday! https://www.aopa.org/community/2023/buckeye-air-fair

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

4* Mille Lacs Lake / Isle, Minn. - ICEPORT 2023 Fly-in Brunch at Mac's Twin Bay. For the latest ICEPORT event updates, please visit: Facebook.com/CreateLift. Pilots monitor: 122.9. Skis & wheels welcomed. GPS coordinates: 46.17N/93.48W 320 200-8050 CreateLift@gmail.com *(Snow Day Backup Date 3/5/2023)*

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* Brooklyn Center, Minn. - **2023 Aviation High School Career Forum from 9:00 a.m. – 3:00 p.m.** at the Heritage Center, 6155 Earle Brown Drive. darlene.dahlseide@state.mn.us **www.scsutraining.com/2023amt**

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 **www.scsutraining.com/2023amt**

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

12-13* Wisconsin Rapids, Wis. - Airport Operations & Land Use Seminar at the Hotel Mead. For more information about the seminar, and to register, visit wisconsindot.gov/avtraining. Registration deadline is April 5th.

23* Oshkosh (KOSH), Wis. - S.J. Wittman Birthday Fly-In Breakfast 7:30-11 a.m. All you can eat pancakes, sausage, scrambled eggs, milk, juice, coffee at Wittman Regional Airport Terminal. 920-810-1046. EAA252@gmail.com

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

30* Cassville (C74), Wis. - Pancake, sausage, eggs breakfast 8 A.M - Noon. 608-725-5180. casstour@chorus.net

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

7* Eau Claire (KEAU), Wis. - EAA Pancake Breakfast & Fly-In at Chippewa Valley Regional Airport 8-11 A.M. Davesoni@yahoo.com

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

21* Palmyra (88C), Wis. - Palmyra Flying Club FUN Day with Live music from 3 bands and Food with Aircraft Display 3-7 P.M. 608-334-5917.

JUNE 2023

4* Manitowoc (KMTW), Wis. - Airport Rummage Sale and Fly-In. Pancake breakfast & brat fry. Hangars full of goodies. 8 A.M. - 2 P.M. 920-323-6522 *(Rain date 5th.)*

4* Amery (KAHH), Wis.- Pancake Breakfast with kielbasa 7-11 A.M. 715-554-3858.

5* Fort Atkinson (61C), Wis. - Base Wings & Wheels Car Show. French toast, Jones sausage & ham, real maple syrup plus coffee, milk & juice. 920-542-6501

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

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

24-25 **Flint, Mich.** - Wings Over Flint 2023 at Bishop International Airport.
25* **Redwood Falls, Minn.** - Pancake & sausage breakfast 8 A.M. - Noon. shannonguetter@gmail.com
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.
2* **Algoma (WI28), Wis.** - Rio Creek Airport Fly-In and Hangar Dance. Porky Pancake Breakfast-Brats, Burgers, Booyah, Beer and More. Mark Jirikovek Polka Band and more music. Kids Archery Safety and Barrel Cart Rides. Antique Car and Tractor Show. Staring at 7:30 A.M. 920-255-0094
4* **Cassville (C74), Wis.** - The US Army Golden Knights Parachute Jump is one event. Check out https://cassville.org/event/golden-sky-on-the-fourth-of-july/ for other information. 608-725-5180.
4* **Mount Morris (C55), Ill.** - Pancake, scrambled eggs, hash browns, sausage, applesauce & drinks at the Ogle County Airport 7-11 A.M. 319-830-0982
6-9 **Muskegon, Mich.** - Wings Over Muskegon Air Show 2023. wingsovermuskegon.com
7-9* **Isle (MY72), Minn.** - Friday the 7th STOL Practice with Brats & Beer in the evening. Saturday 8th Competition STOL with Burger Fry in the afternoon. Sunday the 9th Pancake Breakfast. Camping available on the grounds with showers & bathrooms. 320-674-0065
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
10-13 **Miminiska Lodge, Ontario (CPS5)** - Canada Fishing Fly-Out. Arrive on the 10th and depart on the 13th. (3 nights/2 days). Call or Email Krista for rates and availability: 1-888-465-3474 or krista.cheeseman@wildernessnorth.com
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* **Paynesville, Minn.** - Paynesville Airshow 9 A.M. - 5 P.M. Follow on www.pexfriends.com Thomas.fread@gmail.com
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

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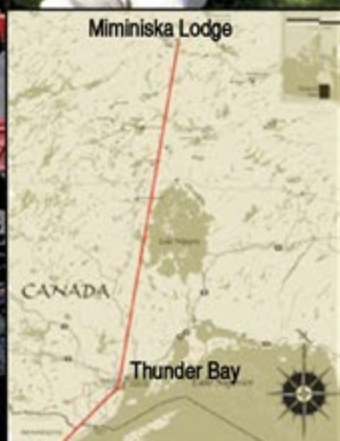

Neste & Airbus Join Forces To Advance Use Of 100% Sustainable Aviation Fuel

Neste and Airbus have signed an agreement to advance the use of sustainable aviation fuel (SAF) within the aviation sector. Both parties share a vision that SAF is a key solution to helping reduce greenhouse gas emissions of air travel. This collaboration aims to accelerate the aviation sector's transition to SAF.

Reaching the aviation industry's ambitious "net zero carbon emissions by 2050" goal, requires different measures to be deployed, including fuel-efficient aircraft technologies, improved operations, and ground infrastructures, as well as deployment of sustainable aviation fuel. Neste and Airbus recognize that one of the biggest challenges in accelerating SAF use is the ramp-up of SAF production. This collaboration is laying the foundation for Airbus and Neste to explore business opportunities together and jointly promote the production and use of sustainable aviation fuel. The focus will be on the technical development of SAF, fuel approval and testing of current and future production technologies and investigating how "100% SAF" use can be enabled.

"Neste is at the forefront of accelerating the aviation sector's journey to a more sustainable future. That journey requires cooperation across the industry's value chain. This collaboration with Airbus connects a pioneer in the aerospace industry with a leader in renewable fuels. The combined knowledge and expertise of the companies will help advance the use and availability of SAF as a means of transitioning aviation towards more sustainable energy sources and reducing the climate impact of aviation," said Thorsten Lange, Executive Vice President, Renewable Aviation at Neste.

"At Airbus, we believe SAF is one of aerospace's most promising decarbonization solutions that can be used in both in-service aircraft fleets and those of tomorrow. We are proud to partner with Neste and drive forward the development and uptake of SAF, stimulating the creation of a commercially viable market for renewable aviation fuels," says Julie Kitcher, EVP Communications, Sustainability and Corporate Affairs, Airbus. "All Airbus aircraft are already certified for flying with up to 50% SAF, and this partnership will be instrumental to reaching certification for 100% SAF by the end of the decade."

The agreement between Neste and Airbus builds on the cooperation in the ECLIF3 research project, the world's first in-flight emissions study using 100% SAF on a wide-body commercial passenger aircraft, with Rolls-Royce and German research centre DLR. Following the collaboration in the ECLIF3 project, Airbus and Neste will be further working on the technical aspects of the challenge to reach the 100% SAF certification.

SAF delivers the performance of conventional jet fuel but with a significantly smaller carbon footprint on a life cycle basis. Using Neste MY Sustainable Aviation Fuel™ reduces greenhouse gas emissions by up to 80%* over the fuel's life cycle, compared to using fossil jet fuel.

Neste MY Sustainable Aviation Fuel is produced from sustainably sourced 100% renewable waste and residue raw materials, including used cooking oil and animal fat waste. Prior to use, SAF is blended with conventional jet fuel and works seamlessly with existing fueling infrastructure and aircraft engines. ❑

Wisconsin DOT sites to checkout in relation to AVIATION

SCHOLARSHIPS IN REGARD TO AVIATION

https://wisconsindot.gov/Pages/doing-bus/aeronautics/education/aved-scholar.aspx

DEGREE PROGRAMS IN AVIATION

https://wisconsindot.gov/Pages/doing-bus/aeronautics/education/aved-degree.aspx

YOUTH AVIATION PROGRAMS

https://wisconsindot.gov/Pages/doing-bus/aeronautics/education/aved-youth.aspx

DSV Becomes First Etihad Cargo Partner To Purchase Sustainable Aviation Fuel (SAF) To Offset Carbon Emissions

Etihad's first NetZero transatlantic flight from Washington Dulles to Abu Dhabi utilized SAF, combined with SAF Book & Claim, demonstrating the potential to utilize current technology to achieve net-zero aviation. The NetZero flight, operated with Etihad's Boeing 787 "Greenliner" programme, incorporated SATAVIA technology to prevent warming aircraft contrails.

Abu Dhabi, United Arab Emirates – Etihad Cargo, the cargo and logistics arm of Etihad Aviation Group, has announced that DSV Global Transport and Logistics has become the carrier's first partner to purchase sustainable aviation fuel (SAF) to offset the carbon emissions of its cargo shipment.

Via the book and claim system, Etihad Cargo facilitated DSV's SAF purchase, enabling the transport and logistics provider to offset CO2 emissions and reduce non-CO2 climate impact. Etihad Cargo transported DSV's cargo shipment from Washington Dulles to Abu Dhabi on Etihad's first transatlantic NetZero flight on November 13, 2022.

Etihad's Boeing 787 "Greenliner" combined SAF with contrail prevention technology from its partner, SATAVIA, to actively manage carbon emissions and non-CO2 climate effects from contrails, or condensation trails, which cause surface warming and are responsible for up to two-thirds of aviation's climate impact. The successful delivery of DSV's shipment has proved net-zero air cargo operations are possible and is the first step in transforming the possible into the routine.

Offering partners and customers the option to transport cargo more sustainably via the SAF book and claim system is the latest step in Etihad Cargo's sustainability journey.

In alignment with Abu Dhabi Environment Vision and Etihad Aviation Group's sustainability strategy, Etihad Cargo has pledged to achieve net zero carbon emissions by 2050. The carrier is targeting a 20 percent reduction in emissions intensity by 2025 and aims to cut 2019 net emissions by 50 percent by 2035.

Demonstrating the carrier's commitment to achieving sustainability through partnerships, Etihad Cargo became the first Middle Eastern carrier to join TIACA's BlueSky verification program, enabling the carrier to assess its progress against eight critical sustainability criteria via an evidence-based desktop verification process. Etihad Cargo also recently announced a partnership with IATA to trial a cargo-specific CO2 emission calculation tool, which will provide a valuable proof of concept for the cargo component of the IATA CO2 Connect carbon calculator. During the three-month trial, Etihad Cargo will share data on fuel burn, load factors and other key variables from flights and cargo shipments and advise on various use cases. IATA and Etihad Cargo will use the world's first cargo-dedicated CO2 emissions calculation tool to manage and report on sustainability progress to provide the entire value chain, including shippers, forwarders, investors, and regulators, with reliable and trustworthy data. ❑

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