

MIDWEST FLYER

MAGAZINE

JUNE/JULY 2017



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We have already received hundreds of reports from our members, but if you believe you have experienced unreasonable pricing at an FBO, please visit AOPA.org/FBOFees and be sure to include all the pertinent information including date, location, type of aircraft flown, and your specific pricing issue. If you still have a copy of your receipt, please send that as well.

This information will allow us to get a more complete perspective of the problems and where they are, so we can engage with government departments and agencies as well as the FBO industry to ensure general aviation has unfettered access to airports.

Keep checking AOPA.org for the latest.

A handwritten signature in black ink, appearing to read "Mark R. Baker".

Mark R. Baker
President & CEO, AOPA

ON THE COVER: Airshow performer, Kyle Franklin, flying the one-of-a-kind "Dracula." Complete story on this award-winning performer beginning on page 44.

Chris Bildilli Photo



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Promoting Aircraft Maintenance Careers Through Competitive Wages, Status & Benefits

by Dave Weiman

While our elected officials in Washington can't seem to agree on anything to better our country, many of us in aviation are working to attract more young people to our industry, despite an apparent lack of coordinated efforts between general aviation and the airlines. While those of us in general aviation are out beating the drum in our schools, giving away scholarships, and promoting programs like EAA Young Eagles, high school STEM programs, and aviation career days at airports, the airlines are attracting new hires by finally increasing wages and benefits.

For instance, Air Wisconsin announced in May that it has increased its pay and benefits for new pilot hires to include cash bonuses up to \$57,000, including \$8,000 for pilots who are type rated in turbine aircraft. During the first three years,



a new pilot will receive up to \$317,000 in wages and elected benefits – enough to help cover their education to get in the right seat of a CRJ-200. Promotions to captain take only 18 to 24 months, and Air Wisconsin pilots can then move to United Airlines through United's Career Pathway Program (www.airwis.com/pilots).

Seeing our youth heading for professional flying careers is encouraging, but more needs to be done to promote careers in aircraft maintenance by 1) providing wages which are competitive with pilot wages, 2) raising the status of the profession by recognizing technical skills and responsibilities, 3) pointing out the benefits of the profession, like normal work hours and being home at night and on weekends, and 4) providing more scholarships and tuition reimbursement.

Usually, when the airlines and general aviation talk, it is about the pros and cons of privatizing the air traffic control system, which we are at odds. Maybe if we worked together on promoting aviation careers, we would have common ground that could carry over for better relations overall. □

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ISSUE CLOSING DATES

DEADLINE	ISSUE
October 15	December - January
December 15	February - March
February 15	April - May
April 15	June - July
June 15	August - September
August 15	October - November

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DISTRIBUTION

Readership consists principally of aircraft owners, fixed base operators, airport managers, and aircraft maintenance shops in Wisconsin, Minnesota, North Dakota, South Dakota, Illinois, Iowa, Michigan, Indiana, Missouri, Kansas, Nebraska, and Ohio.

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Ask Pete!

by Pete Schoeninger

Q: Last fall, my hangar neighbor sold his airplane, and gave me his 2 horsepower, gas-powered little tug, which moves my airplane in and out of my hangar. I have only used it two or three times



Pete Schoeninger

a month the last several months. Today, I looked at the oil and it was sort of like thin chocolate milk. I put in new oil last fall. Have you ever heard of this?

A: Yes. If you run a gas engine in the winter for only a couple of minutes, it is possible that you have warmed it enough to condense water into the crankcase, but have not run it long enough for the engine to get hot enough to burn off that condensation. So drain that oil right now. Oil is cheap... Change it often. But more important, this is why you need to carefully read your manufacturer's recommendations for storage of your airplane engine, oil changes, etc., because it is possible the same thing could happen to your plane.

Q: At your suggestion, my 16-year-old son just got an entry level part-time job at our local airport. On his second day on the job, his boss asked him to go to the parts manager and get a gallon of prop wash. The parts manager told

him they were out, but to go to their competitor on the other side of the airport. At that business, they told him they were also out, but suggested he go to the airport manager's office. They also had none and suggested my son return to his job and report that no one on the field had prop wash. Was his leg being pulled?

A: Yes! And it probably won't be the last time.

Q: My friend, a fellow private pilot, prefers to fly his Comanche from the right front seat, even when flying solo, rather than the traditional left seat. Is this legal? I thought you had to be a certified flight instructor to fly from the right seat? Can I do this in my 172?

A: As long as you have access to all controls, can see all instruments, etc., you should be okay. But your visual perspectives are different. Perhaps the most noticeable difference is runway alignment over a nose that curves to the left, rather than curving to the right, as you are used to from the left seat. You also have to use your left hand to control the throttle and carburetor heat, and your right hand to control the yoke.

Q: My 172M is certified in Normal Category up to 2300 pounds, and Utility Category up to 2000 pounds and forward c.g. Why the 300-pound difference?

A: Utility Category airplanes can do commercial maneuvers like chandelles, lazy eights, and sometimes, spins, with

a maximum G load of 4.4. Normal Category airplanes are limited to a 3.8 G load. There's lots more to the answer. Consult your Pilot's Operating Handbook for more details. Note that at 2300-pound gross weight, a 3.8 G load puts about the same load on your structure as a 2000-pound weight at 4.4 Gs. (About 8800 pounds.)

Q: My father told me when Cessna came out with the Cardinal, they expected to phase out the 172. That was 1967, but today 172s are still in production and the Cardinal line shut down in the late 1970s. What happened?

A: Cardinals were delightful airplanes to fly, but initially they had numerous problems and never really overcame their initial reputation as troublesome. A few problems: The first aircraft were about 100 pounds heavier than the C172 with the same 150 hp engine; the wing on the first Cardinals was not a "low speed" wing; under some conditions with flap setting and c.g. location, the tail could stall resulting in a hard landing or worse. In 1969, the airplane got 30 more hp with the 180 hp engine, and in 1970, a new wing airfoil. But the damage to its reputation was done by the end of 1968. Sales never recovered, even though the 1970 and newer airplanes were much better. First year (1968) sales of the Cardinal were 1150 units vs. 600 C172s, but in 1969, Cardinal sales fell to 200 and C172 sales jumped up to 1300. If you are a geezer like me, you may find similarities with the Chevy Corvair.

Q: My 1979 Cessna Hawk XP has a factory installed float kit. It has never been on floats, but I am considering buying a new set of amphibious floats so I can enjoy both water flying, and ILS approaches at paved runways. I've been told to be ready for a big increase in insurance premiums. Why?

A: Putting new amphibious floats on your airplane will about double its value. (Your airplane is worth say \$65K, and the floats double that, roughly.)

CONTINUED ON PAGE 11

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The Difference Between “Overhaul” & “Inspection?”

by Gregory J. Reigel

Attorney At Law

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If you own or operate an aircraft that is operated under 14 C.F.R. Part 91, you know that your aircraft requires maintenance in order to remain in an airworthy condition. And sometimes it isn't exactly clear what maintenance items are and are not required. This can be especially true when your maintenance provider starts talking about “inspections” and “overhauls.” However, it is important to understand the difference between these two items and to know when they do and do not apply.



Greg Reigel

Inspection versus Overhaul

As a starting point, it is helpful to review 14 CFR Part 1, § 1.1, which tells us that “[m]aintenance means inspection, overhaul, repair, preservation, and the replacement of parts, but excludes preventive maintenance.” So, by definition, we can see that “overhaul” and “inspection” are separate items and each a unique form of “maintenance.”

Inspections involve examinations or manual checks to determine the condition of an aircraft or one of its components. An inspection may include a routine visual examination up to a detailed examination involving complete disassembly or the use of X-ray, ultrasonic, eddy current, or magnetic particle equipment to determine the condition of the aircraft or component. In a typical inspection, the inspected component is not replaced unless it is actually defective.

On the other hand, an overhaul consists of disassembly, cleaning, inspection, repair, reassembly, and testing of the aircraft or the particular component. The primary purpose of an overhaul is to restore a component to a known good condition that will give a reasonable assurance of operation for a specified amount of time (the “time between overhauls” or “TBO”). So, while inspection of an individual aircraft component may be an integral part of an overhaul, that inspection is just one part of the overall overhaul.

Why Does The Difference Matter?

This distinction is important for Part 91 owners and operators because it will dictate in many instances whether the inspection or overhaul must be performed in order to maintain an aircraft's airworthiness.

The regulations require each Part 91 operator to have an “inspection program” for that operator's aircraft. This

program may be a 100-hour, annual, manufacturer's recommended inspection program, or one of the operator's own design, depending on aircraft type. Inspection programs include scheduled inspection items to be performed at defined intervals to check for hidden damage and continued serviceability in order to determine the condition of the aircraft and its components (airframe, engines, propellers, rotors, appliances, survival equipment, and emergency equipment).

An inspection program's “scheduled inspection items” are distinguishable from “unscheduled inspections” that are event-driven from a known malfunction or discrepancy. The purpose of unscheduled inspections is to determine the level of damage that has occurred to the aircraft or component so the operator may perform the necessary maintenance actions to restore the aircraft or component to an airworthy condition.

Unscheduled inspection items are not part of an inspection program. Similarly, inspections that are part of a larger maintenance process, such as inspections performed during an overhaul, are also not a part of an inspection program. For example, scheduled replacement of parts (such as filters, seals, etc.) that is a part of the overall maintenance program is not included in an inspection program. However, if an inspection destroys a component and requires replacement of the component after the inspection, it is appropriate to include that inspection item in the inspection program.

Functional checks are a form of an inspection as well, but such checks may not necessarily be part of an inspection program. Whether the functional check is included in an inspection program will depend upon why the inspection is being performed.

If the functional check is listed in the inspection program, then it is a mandatory inspection. However, if the functional check is performed as part of the return to service after a specific maintenance activity, then the inspection is part of the maintenance procedure and is not part of the inspection program. On the other hand, the functional check could be part of a pilot's pre- or post-flight procedure required by an aircraft flight manual or pilot's operating handbook, in which case the inspection item is neither required by the inspection program or a maintenance procedure.

In contrast, overhauls are a form of maintenance, rather than an inspection. As such, overhauls are not included in an inspection program. However, an overhaul is a maintenance process that is part of a maintenance program, whether a manufacturer's or FAA approved program. But Part 91 operators are generally not required to comply with a manufacturer's entire maintenance program or program approved by the FAA (as opposed to Parts 121, 125 or 135 operators, for example, whose compliance is required).

So, this is why the distinction matters: If an inspection is included in the aircraft's inspection program, then it is

mandatory. Overhauls, on the other hand, are not inspection program items, and as a result, they are not mandatory for Part 91 operators.

Conclusion

Under § 91.403(a), the owner or operator of an aircraft is responsible for maintaining the aircraft in an airworthy condition. With an understanding of the distinction between

“inspections” and “overhauls,” you will be in a better position to determine when each is required by the regulations, so you can make informed decisions regarding the aircraft you own or operate under Part 91.

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. For assistance, call 214-780-1482, email greigel@shackelfordlaw.net, or Twitter @ReigelLaw. □

ASK PETE FROM PAGE 8

So before an underwriter considers the risks of your water flying, you now have about twice the hull value (airplane + amphib floats.) Talk to your insurance agent, and research the Seaplane Pilots Association. They have good information.

Q: My friend bet me an adult beverage that I could not find the starter button on his Piper Tri-Pacer. I quickly accepted, but I lost the bet. I couldn't find it so I had to pop for a round at our local watering hole. But he still wouldn't tell me. So where is it located?

A: Sit in the pilot seat. Put your left hand under your left

thigh and feel for a metal box with a button in it. The button is your starter.

EDITOR'S NOTE: Contact Pete Schoeninger at pete.harriet@gmail.com with your questions for this column or for consultation on aviation business and airport matters. Pete has four decades of experience as a line technician, airplane salesman (300 aircraft sold thus far), appraiser, snow removal supervisor, airport manager, and as the manager/co-owner of a fixed base operation.

DISCLAIMER: The information contained in this column is the expressed opinion of the author only, and readers are advised to seek the advice of others, and refer to the Federal Aviation Regulations, Aeronautical Information Manual, Pilot's Operating Handbook for the airplane(s) they fly and other instructional materials before attempting any procedures discussed herein. □



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The Glide Path, Circling Approaches, The “Epic” Instrument Travel Machine & An ADS-B Breakthrough

by Michael J. “Mick” Kaufman



Michael Kaufman

In the April/May 2017 issue of *Midwest Flyer Magazine*, I wrote about the way I do glideslope intercepts, and one of our readers brought an unknown fact to light on why this may not be the best procedure. I also want to share some of my thoughts

on circling approaches and make our readers think before attempting one. Additionally, after three years of work, a homebuilt aircraft takes to the air to rival many corporate jets. And a new ADS-B product appeared at Sun 'n Fun in Lakeland, Fla., that has the greatest potential and at the lowest acquisition cost.

I always enjoy hearing from our readers and I recently received an interesting email from Antonio Rodriguez of Eagan, Minnesota. Antonio is a flight instructor who served in the U.S. Air Force. He shared some of his thoughts of why it may not be the wisest choice to plan on intercepting the glideslope on an Instrument Landing System (ILS) approach a long way out, and following it down as I had suggested. The point that he made was from AIM 1-1-9 d.3. (Glide Slope/Glide Path), which explains that the "glideslope is normally usable at a distance of 10nm. That 10 nm is from the glideslope antenna and is not referenced to the FAF, as I had previously thought.

In the case of hoping to get an accurate glideslope and avoiding a step-down, may not work. Even though the range of a glideslope may compel such a move on behalf of the pilot, it is necessary to note that the FAA only guarantees the accuracy to that limited distance. While on the topic of glide slopes and glide paths, it should be noted that the glide path on 12 JUNE/JULY 2017 MIDWEST FLYER MAGAZINE

Beginning with the November 15, 2012 chart publication date, explanatory text describing new circling criteria that will affect circling approach area dimensions by expanding the areas to provide better obstacle protection will be added to the front matter legend pages. Affected procedures will have a negative “C” icon on the circling line of minima to which the new criteria has been applied. For a detailed explanation of the new criteria, see the explanatory text and tables in the front matter of the TPP (pages B1 & B2), as well as a detailed explanation to be published in the AIM. Users can expect to begin seeing charts with the negative C icon in the near future.

C CIRCLING	540-1	483 (500-1)	540-1½	640-2
			483 (500-1½)	583 (600-2)

FIG. 1

FAA Expands Size of Protected Airspace for Circling Approaches

May 27, 2013

[Listen to a NBAA Flight Plan podcast for more on changes to circling approaches.](#)

For nearly 20 years, the aviation industry has expressed to the Federal Aviation Administration (FAA) its concern over spatial limitations of circle-to-land approaches. These safety concerns have been raised by industry representatives who suggest that the amount of protected airspace allowed for aircraft maneuvering throughout a circling approach is insufficient.

As a result, the FAA has increased the size of protected airspace used in establishing the minimum descent altitude (MDA) on circle-to-land approaches. Since May 2, 2013, FAA has begun to publish instrument approach procedures that use the larger circling approach airspace dimensions. This new criteria affords pilots greater lateral obstacle clearance protection and increased maneuvering space to properly align and stabilize the final approach and landing out of a circling approach.

Circling Area Dimensions

The protected airspace for a circle-to-land approach is defined by arcs of a specific radius based on the aircraft approach category defined in 14 CFR Part-97. These arcs are centered on each runway threshold and connected tangentially to form a continuous block of airspace that the pilot can use to maneuver and align the aircraft with the landing runway (Fig 1).

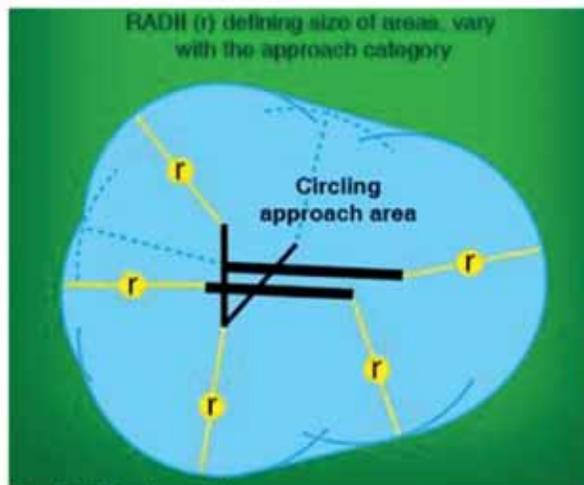


Figure 1 – Circling Approach Area

Under the previous terminal instrument procedures (TERPS) criteria, the radii used to define the size of these arcs were relatively small, especially for category C and D operations (Fig 2).

Figure 2 – Previous Circling Area Radii

Approach Category	Radius (NM)
A	1.3
B	1.5
C	1.7
D	2.3
E	4.5

FIG. 2

a GPS approach designated as an LPV (Localizer Precision with Vertical Guidance), the needle and annunciator will not become active until after crossing the fix prior to the Final Approach Fix (FAF).

I had recently seen an anomaly for the second time in a six-month period where the glideslope/glide path needle did not appear during an ILS approach and on an LPV approach, yet the autopilot coupled and flew the approach perfectly. I am not sure what happened, but I had flown this aircraft with the owner for over 10 years, and this had never occurred before. The only thing the owner could tell me is that the engine monitor was removed and sent to the factory recently, and a wire might have gotten broken in the process. Guess we must test everything imaginable after maintenance, even if unrelated.

“The Circling Approach”

I want to dedicate some of my column in this issue to the “circling approach,” as it seems to have been an issue in several recent fatal IFR accidents. On an Instrument Proficiency Check (IPC), the FAA requires the pilot to demonstrate this maneuver. A lot of thought has gone into the design

and execution of this maneuver by the FAA. The altitude minimums are specifically calculated for aircraft based on their speed and turning radius and obstructions. Pilots are instructed not to descend below this altitude until reaching a position where a normal landing can be made. This is all calculated by the “terpsters” who are part of the FAA and may work in a perfect world, but let me tell you, it can be a maneuver that is hazardous to survival. After 20 years of pilots urging the FAA to increase safety by making higher circling minimums, beginning with the November 15, 2012 approach charts, circling minimums were increased (see FIG 1 & 2).

It is my personal recommendation to all instrument pilots to avoid circling approaches altogether. When I do an instrument proficiency check, this is a required maneuver according to the FAA, but I will only do it in good VFR conditions.

A recent incident came to my attention where an FAA inspector failed an applicant on a checkride for refusing to do a circling approach at night and in marginal conditions. Exercising good judgment should not be a reason for failure. Many airlines and charter operators prohibit circling approaches in their flight manuals, and for a good reason.

Let’s look at an approach chart for GPS RWY 29 at PDC



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completing FAA certification this fall.

I have been a skeptic for some time on the ADS-B requirement, not just because of its cost to aircraft owners, but also its poor design and performance. Many pilots refer to it as, "Some of the traffic, some of the time." But at Sun 'n Fun this year, April 4 -9, 2017 in Lakeland, Fla., I was impressed with several new products made by Levil Aviation (FIG 4 & 5).

Levil Aviation's first innovation was the "Beacon," which is an antenna to be mounted under the belly of an aircraft. The "Beacon" is a self-contained ADS-B out device that is 2020 compliant with all necessary components with a selling price of around \$1,000.

The second innovation is called the "BOM," as it looks like a bomb. It mounts under the wing of the aircraft and provides a complete backup data source for your iPad display showing your GPS position, ADS-B in, angle of attack, air data and AHRS, and it is self-powered with its own battery and a small wind turbine propeller for charging. The BOM has a WiFi outsource to communicate with your iPad. The price of this unit is slightly more than a thousand dollars. Being an avionics geek and not

Beacon



ADS-B OUT

FIG. 4

BOM

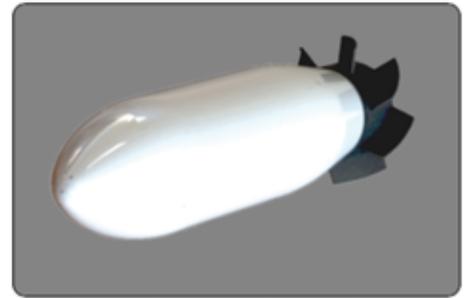


FIG. 5

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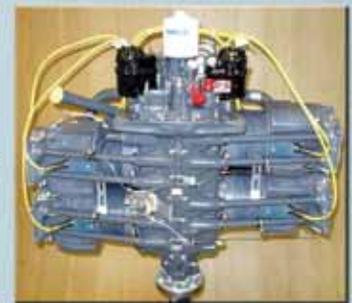
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easily impressed, I would have to say this got my attention, and if these devices work as advertised, I may buy one.

Fly safe! Fly often!

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. Kaufman conducts pilot clinics and specialized instruction throughout the U.S. in a variety of aircraft, which are equipped with a variety of avionics, although he is based

in Lone Rock (KLNR) and Eagle River (KEGV), Wisconsin. Kaufman was named "FAA's Safety Team Representative of the Year" for Wisconsin in 2008. Email questions to captmick@me.com or call 817-988-0174.

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

Apollo Program's 50th Anniversary Brings Astronaut Reunion To EAA AirVenture Oshkosh 2017

OSHKOSH, WIS. – Astronauts from the Apollo missions that put humans on the moon for the first time are expected to be at EAA AirVenture Oshkosh 2017, as the "World's Greatest Aviation Celebration" commemorates the 50th anniversary of the Apollo program.

The 65th annual Experimental Aircraft Association fly-in convention will be held July 24-30 at Wittman Regional Airport in Oshkosh, Wisconsin.

The reunion is expected to be the largest gathering of Apollo astronauts at Oshkosh since the memorable 1994 "Salute to Apollo" program that brought together 15 of the men who were the faces of the American effort to put men on the moon.



Apollo 8, the second manned mission in the United States Apollo space program, was launched on December 21, 1968, and became the first manned spacecraft to leave Earth orbit, reach the Earth's Moon, orbit it and return safely to Earth. The three-astronaut crew included (L/R) Command Module Pilot James Lovell, Lunar Module Pilot William Anders, and Commander Frank Borman. *NASA Photo*

Many of the activities will be centered on AirVenture's Apollo Day on Friday, July 28, which is highlighted by a major evening program at Theater in the Woods.

"A number of Apollo astronauts have already committed to the event, as have other people closely involved with America's space program during that era," said Rick Larsen, EAA's vice president of communities and member benefits who coordinates AirVenture features and attractions. "This will be a rare, unforgettable gathering of the people who met the challenge of flying to the moon and safely returning, representing hundreds of thousands of individuals who contributed to its success. You may never get another opportunity to see the people in person, up close, as you will at Oshkosh this summer."

It is expected that crewmembers representing many of the Apollo missions will attend. Those who have already confirmed their attendance include: Frank Borman (Apollo 8), Walt Cunningham (Apollo 7), Fred Haise (Apollo 13), Jim Lovell (Apollo 8 and Apollo 13), and Al Worden (Apollo 15).

Additional EAA AirVenture Oshkosh information, including advance ticket and camping purchase, is available online at www.eaa.org/airventure. EAA members receive the lowest prices on admission rates. For more information on EAA and its programs, call 1-800-JOIN-EAA (1-800-564-6322) or visit www.eaa.org. Immediate news is available at www.twitter.com/EAA. □

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Radio Talk: Intimidation & Cure

by Harold Green

For too many general aviation pilots, “radio communications” are intimidating. While most prevalent among pilots who fly from non-towered airports, the phenomenon is by no means confined to them.

When first learning to fly, it is quite natural to be reluctant to talk on the radio. No one wants to let the whole world hear them make mistakes or reveal their newbie status. The “Voice of God” coming over the headphones or the cabin speaker compounds this. The “voice” is extremely intimidating to new pilots. In fact, some folks never get over this. The result is a reluctance to use the communication facilities available, and occasionally this causes a violation of regulations due to lack of communication.

This discussion is directed to those who are still reluctant, or are nervous, about radio communications. Our purpose is not to provide detailed instructions on how to communicate.



Harold Green

That can be achieved via the Aeronautical Information Manual (AIM) or the Controller Handbook FAA Order JO 7110.65. This discussion provides some background on why our procedures are what they are and hopefully, how to live with and use the system we have.

The standard radio communication procedures, as listed in the Aeronautical Information Manual, are stilted and very formal, but are considerably shortened and far less formal than just a few years ago. The reason for the formality goes back to the days when long-range communications beyond line of sight were carried out over High Frequency (HF) radios and often in Morse Code, rather than voice. Those signals were subject to a very noisy background with electronic, random, and often lightning noise. HF could pick up lightning noise halfway around the world. Particularly when using Morse Code, it was necessary to establish communication before sending or requesting information. Adding to all this was that multiple ground stations often used the same frequency. As a result, it was necessary to establish a communication link before sending information. The result of this was a procedure, which is the basis for today’s communications.





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Today, those noise sources are practically non-existent in normal radio communications. Frequency allocations in the Very High Frequency (VHF) range limit communications to line of sight so there is only one station within range of an assigned frequency. When flying cross country, remote radio sites are placed around the country so we are seldom beyond "Line of Sight" of a radio site. Lightning does not affect these frequencies, either. Modern electronic circuitry has drastically reduced circuit induced noise. Therefore, we have a much-simplified procedure in practice.

The first step in communicating via radio is to know what to say. The following is an example to help clarify the remainder of this discussion. In order to plan ahead, it is necessary to understand what to expect. At first, the best way is to rehearse in your mind what you are going to say. Realize there is a limited vocabulary here. You are not going to quote Shakespeare or Dr. Suss. In fact, all communication can be reduced to a subset of the following: Who you want to talk to? Who you are? Where you are? What you know? What you want?

Let's take this apart as you check in with approach for landing at Shangri-La.

*Who you want to talk to: **"Shangri-La Approach."**

*Who you are: Aircraft type, model and registration number: **"Piper Warrior N1234."** (Stating model is important to let the receiver know

generally what your capabilities and limitations are.)

*Where you are: **"Two west of Timbuktu at 3,500:"** Don't forget you are in an airplane and where you are is a three dimensional issue now.

*What you know: **"With Tango."**

*What you want: **"Landing Shangri-La."**

*What you just said was: **"Shangri-La Approach"** (This is) **"Piper Warrior November 1234, two (miles) west of Timbuktu at 3,500 (feet), with (information) Tango. Landing Shangri-La."** "The words within the parentheses are implied and do not need to be spoken.

They will answer with something Like: **Piper N1234, squawk 4371.**

Respond with: 1234 squawking 4371 (after you set the code into the transponder).

The next communication from approach will be something like: **"Piper N1234, Radar Contact three west of Timbuktu. Shangri-La altimeter 3010."**

The old "Over" and "Out" words are no longer with us for normal communications, even though in some publications they are still listed. (Actually Over and Out were never used together except in movies. You were either giving the other person a chance to speak by saying "Over," or you were ending the conversation by saying "Out.") Occasionally, you will hear someone say "Wilco," which is short for will comply. That's acceptable jargon.

The preceding is an example of an initial call up. With the exception of receipt of an IFR clearance, this is probably the most complex communication you will encounter in the air. By the time you are ready to think about receiving an IFR clearance in the air, radio communications will be old hat anyway.

As you talk, recognize you are talking to people, who are FAA employees or agents thereof. (Many operations are conducted under contract by companies, rather than the federal government.) Whoever signs their pay checks, these folks are people just like you. There is no reason to be intimidated by them. They are just doing their job and quite frankly they do it very well as a general rule. While they may sound hurried when traffic is heavy, they will be as helpful as they can.

In almost all cases controllers will only give you information relative to traffic, assign a heading and/or an altitude, assign a destination, give you a new frequency, and assign a squawk code. That's it folks.

Sometimes we miss all or part of a communication. Do not hesitate to ask for a repeat of instructions. "Say again" is an accepted means of asking for a repeat. If you cannot execute an instruction, or feel that doing so would result in hazards to your flight, the proper response is to say "Unable."

The FAA definition of "Pilot In Command" (PIC) means: The person who has final authority and responsibility for the operation and safety of the flight. (14CFR Part 1.1 Federal Aviation Regulations.) In terms of our discussion here, this means that in the event of potential danger to the aircraft or its occupants, the Pilot In Command has not only the authority, but the obligation, to decline ANY instruction that places the flight in jeopardy. Afterwards the PIC may be required to submit an explanation in writing. That's better than having your survivors write an obituary, isn't it? Now the question is how do you do that? Simple: The statement "Unable

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to comply” will work wonders. You may get a response from the controller asking why you cannot comply. So, tell him or her why. You may also state your intentions. However, this happens so rarely that it is not a concern. The only reason for including it in our discussion here is that if it should occur, it means things are tense for you and you should know that you can handle it. However, just because you don’t want to comply is NOT justification and could result in loss of privileges.

One thing that would be good to do is to learn the “phonetic alphabet.” This is given in the AIM in Chapter 4. The phonetic alphabet has undergone several variations over the years. During World War II, the accepted jargon was Able, Baker, Charley, Dog, Easy, etc. In my lifetime, it has moved from this to Alpha, Bravo, Cocoa, Delta to what it is today, which is Alpha, Bravo, Charlie, Delta, Echo, etc. The letter “M” went from Mike to Metro back to Mike. And a few other changes as well. These changes came about as other countries became involved and had a hard time understanding the American jargon. The point to all this is that there is nothing sacred about these. The main thing is you should spend a little time learning the phonetic alphabet, but if you goof and say George for Golf, the world does not end and the controller will most likely understand you. You are more likely to be understood using something like George than “Gee,” which could be heard as zee or three for example. The question arises sometimes about how to check in with a new controller.

Let’s assume you have just been handed off by Chicago Center to Minneapolis Center while receiving VFR flight following. You have been flying at 4,500 feet in N7235. Chicago will say, “November 7235, Contact Minneapolis on 124.6.” Your response should be something like, “7235 to Minneapolis on 124.6.” You can also add, if you wish, “Thanks or Have a good day.” No, that’s not in the book, but gosh, we are two people talking aren’t we? Then, when you check in

with Minneapolis, you only need to say “Minneapolis, November 7235 with you at 4,500.” (This can even be abbreviated to “Minneapolis, 7235 at 4,500,” or “Minneapolis, 7235 at 4.5.” They are going to come back with “November 7235, radar contact 5 west of Timbuktu. Altimeter 29.93.” You respond with “7235, Altimeter 29.93.” Note that in all radio communications,

the airplane is the last to transmit. Purists tend to worry about whether or not the pilot, upon reporting in, should say “Level at 4,500.” The practical answer is there is no need to unless things have been changing. Frankly, however, even if there is no need to add “Level at 4,500,” it adds a little to the communication time, so use it if you feel like it. There are times when



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reporting level or changing altitudes are appropriate.

For example, when contacting departure after takeoff, it is appropriate to state the altitude you are at and the altitude you have been assigned. This is so the controller can calibrate the radar and you have confirmed the altitude you are going to. This also applies when you are in the process of changing altitudes when checking in with a new controller or when you have been asked to change altitudes by the controller. A simple statement like "7235 is out of 4.5 for 6.5." This lets the controller know you have received the instruction and are complying while confirming the altitude assignment.

In general, you should read back all clearances even while flying VFR, particularly altitude and heading assignments. Should you be given a destination, repeat that back as well.

There is one other item which the new pilot should be aware of and NOT hesitate to use. That is for student pilots to simply check in by identifying themselves as a "Student Pilot." Controllers are very understanding and will speak more slowly and distinctly. They will also give you advice if you need it. Don't ever be ashamed to admit your status as a learner, or that you don't understand what was said. There is a vignette in the text we used to use in our instrument course that says it all. A new instrument rated pilot had just been given a lengthy IFR clearance delivered in rapid machine gun fashion. His response was, "Clearance, you can repeat that

more slowly once or seven more times at the same speed."

One last suggestion: Transmitters are quite sensitive these days. You don't need to shout into them. They are definitely better than two coffee cans and a piece of string. All that's really required is to speak in a conversational tone of voice.

The biggest problem you have in communicating is your reluctance to expose your uncertainty to the world. BIG DEAL! We all had to do it at some point and we all sympathize as you learn. We don't look down on you just because you are learning. In fact, you're doing a good thing. Remember, the only way to get better is to practice.

EDITOR'S NOTE: Harold Green is an Instrument and Multi-Engine Flight Instructor (CFII, MEII) at Morey Airplane Company in Middleton, Wisconsin (C29). A flight instructor since 1976, Green was named "Flight Instructor of the Year" by the Federal Aviation Administration in 2011, and is a recipient of the "Wright Brothers Master Pilot Award." Questions, comments and suggestions for future topics are welcomed via email at harlgren@aol.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, and readers are advised to seek the advice of their personal flight instructor and others, and refer to the Federal Aviation Regulations, FAA Aeronautical Information Manual and other instructional materials before attempting any procedures discussed herein. □

Dear Harold:

I read with great interest your article on traffic patterns (Pilot Proficiency, Dec 2015/Jan 2016). I think it is a good idea to remind pilots of the correct procedure for approach, landing, and departing from an uncontrolled airport. However, I do have to say that you did leave out some important information on the correct terminology to be used at such airports.

In your article, you gave a typical pilot report for someone approaching an airport. You wrote: "Typically, we say something like Piper 12345, 5 miles west, landing Morey Airport."

This would have been a perfect place to put in the correct procedure. According to AIM chapter 4-1-9.G.6.A (examples), the pilot should announce:

1. Name of the airport he/she is approaching.
2. Aircraft type.
3. Registration number.
4. Altitude.
5. Position in relation to the airport.
6. How they intend to enter the pattern.
7. What runway they intend to land on.
8. Full stop or touch and go.
9. (Repeat) Name of the airport he/she is approaching.

While I think your idea of letting the other pilots know the performance of their aircraft is a good idea, it is not mentioned in the AIM. Your personal experience with a throttle jockey flying by you while in the pattern is a case

study of a pilot who is only concerned about himself, and in the process, is putting your and his life in jeopardy. I can only hope that you had a conversation with this guy later.

Richard Schmidt
Light Sport Pilot
Plymouth, Minnesota

Dear Richard:

Thank you for your response to my article. Your comments are very applicable and I appreciate them.

The section of the Aeronautical Information Manual (AIM) to which you refer was not included specifically because the discussion was intended to be an extension of the AIM discussion, not a repeat of it. My assumption was that this article could be used as an extension of the AIM information by flight instructors as they saw fit to do so.

My point with respect to aircraft performance was specifically not discussed in AIM. I refrained from mentioning this because some folks would put a confrontational spin on it, which was not my intent.

With respect to whether or not I had a discussion with the pilot who cut us off in the pattern, yes, I did. The incident has not been repeated.

Harold Green, CFII
Instructor, Morey Airplane Company
Columnist, Pilot Proficiency
Midwest Flyer Magazine □

10% Gives You 90%

by Dr. John Beasley, M.D.

Aviation Medical Examiner
Professor Emeritus and Clinical Professor
Department of Family Medicine
University of Wisconsin - Madison

“**D**r. Beasley, if you give me one more pill, I won’t even have to eat breakfast!” snapped the feisty 93-year-old woman in my office, recently. She made me think. Each one of the medications I had prescribed had a purpose and made sense as I treated her various problems. But when I looked at the whole list (there had to be a half dozen or more pills she was taking), I had to wonder, “Am I crazy to give her all this stuff?”



Dr. John Beasley

When we increase the number of medications a patient is taking, the incremental benefits of each new one are less and the probability of side effects and medication interactions goes up – probably exponentially. More is not necessarily better. Probably the first 10% of what we do gives us most of the benefit, and there is decreasing benefit with all the other stuff.

So does the same 10% gives you 90% rule also apply to aviation?

EAA AirVenture Oshkosh is always a highlight of the year and gives us the chance to buy lots of things we can use to improve our flying. While wandering through the exhibit buildings, I saw a veritable cornucopia of things that are available for my Mooney and realized I could buy enough stuff to fill a DC-3. And as with the medications my patient was taking, each would have a laudable purpose. But how much stuff can we add to the cockpit before there is little added value, and the distractions become not just a nuisance, but a hazard? When more become less? For both patients and my airplane, there is a decreasing value to each added procedure or medication or gadget.

We start with the basics. For you as a patient, let’s get the diabetes under some reasonable control and the blood pressure out of the stratosphere.

The basics. For my Mooney, needle, ball and airspeed are still the basics. In each case, we are about 90% of the way to what we really need with about 10%

of the “stuff.”

We need to be judicious in what we decide to do both medically and in aviation. When you are with your personal physician, physician assistant or nurse practitioner, and they propose something new – perhaps a test or a medication – ask them how important



Dynamic Duo *crushes* runway project schedule

Engineers Greg Stern and Terry Donovan played beat-the-clock and won on Waukesha County Airport’s Runway 10/28 reconstruction project. To be eligible for FAA year-end discretionary funds, the runway needed to be designed and bid within a 10-week period. And as a kicker, the project won the **2016 American Concrete Pavement Association’s top national award for Excellence in Concrete Pavements. POW!**

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is the drug to your health, really, and what are the risks or downsides?

Likewise, when you are thinking of a new gadget for the airplane, you may want to ask yourself, how much will this really increase comfort or safety, and is it really worth the

expense?

In both medicine and flying we want the Goldilocks amount... Not too little, not too much. Just right. Whether in medicine or aviation, about 10% of whatever we do will give us 90% of the benefits. □

BasicMed Goes Live... 1,354 Pilots Ready To Fly!

FREDERICK, MD – Effective May 1, aviators can fly under the new BasicMed rules, and 1,354 pilots have already successfully completed the self-assessment checklist, physical examination with a state licensed physician, and AOPA's free online Medical Self-Assessment Course.

"AOPA has fought for medical reform for years, and we are happy that so many pilots are ready to fly under BasicMed on the first day," said Mark Baker, AOPA President and CEO. AOPA has developed Fit to Fly, a series of resources to help pilots understand BasicMed which include a Pilot & Physician's Guide, FAQ, video, and more.

To help those who have been away from flying, AOPA is partnering with flight schools to offer Rusty Pilots seminars in hundreds of locations across the country. By attending the three-hour seminar free to all AOPA members, pilots will receive an instructor's endorsement that meets the minimum requirement for the ground portion of a flight review, and they will have the opportunity to meet local flight instructors so that they can schedule a lesson to complete the ground and flight portion of a review. Nearly 3,600 pilots have returned to active flying status through Rusty Pilots (www.aopa.org). □

FLIGHT EXPERIENCES

Getting Back Into The Saddle Following An Accident

by Gus Hawkins

The days and weeks after an aircraft accident can be very stressful. Following my accident on May 2, 2009, involving my experimental amphibious seaplane, I lost my medical, as well as much of my interest in flying. After a year, I had my medical back, but the self-doubts and sense of guilt lingered, even after I took my FAA checkride and passed an instrument proficiency check.

Many articles have been written about dealing with the aftermath of an aircraft accident. Some focus on how to deal with the owner's insurance company. Some about regaining or demonstrating appropriate flying proficiencies, and others have focused on advice on how to deal with the FAA and other governmental agencies. However, few articles cover how the person should deal with the pilot in the mirror. How do we deal with our feelings? Our fears? Our doubts? Where do we turn for support?

After my accident, I found that there was no emotional or psychological support readily available to me as a general aviation pilot. Two different physicians advised me to keep my concerns about my stress level to myself, because the FAA might pull my medical if they thought that I was depressed. So, should we hide our feelings, just because we want to fly another day? Doing so would not be helpful to the pilot in either the short or long term.

While working to return to flying, I found that most people did not understand how seriously an accident could affect a pilot. Well-meaning folks would say, "it was just an

accident," but of course we pilots know differently. Accidents do not "just happen," and are often the result of pilot error. We pilots take our responsibilities very seriously, and work very hard to prevent accident risks. We don't want to bend the metal or tear the fabric, and definitely don't want to get injured or injure others.

Even our fellow pilots may be at a loss as to how to help us. They can identify with the joy and self-satisfaction of flying, but do they know how to deal with someone who has had the unspeakable happen? Not very often.

I tried to find online resources without success. It doesn't appear that the FAA offers any resources on this topic. I have talked to Aviation Medical Examiners (AMEs) at both EAA AirVenture Oshkosh and Sun'n Fun. Neither were aware of any FAA resources. An email inquiry to the FAA's staff psychologist also did not identify any available helpful information.

Airline pilots have had a program called the "Critical Incident Response Program" (CIRP) since 1994, and now, due to its success, it extends to the rest of the pilot world. It is one of the first resources offered to airline pilots after an incident. However, it has not been applied to General Aviation (GA) pilots.

The most prevalent label applied to what a pilot involved in an accident might go through is Post Traumatic Stress (PTS). Please note that there is no "D" at the end. Most authors and experts discussing this topic refer to this as a disorder. But as one author with a Master's Degree in Social Work wrote, "PTS is a perfectly natural response to an insane

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set of circumstances.” He wanted to remove the stigma that the word “disorder” might imply. The concern was that people might avoid seeking help if they feared being labeled as having a disorder. Without a doubt, PTS can be an adverse factor in coping with the emotional and psychological aftermath of being involved in an aircraft accident.

This article is not intended to provide specific counseling or clinical diagnosis for several reasons. First, there are so many variables involved in coping with an accident, that there is not one solution that will apply to everybody. Second, I am not a medically trained professional.

I have studied Critical Incident Stress Management (CISM) and felt that its concepts were applicable to pilots who have experienced an airplane accident.

Wikipedia provides a definition for CISM: “Critical incident stress management (CISM) is an adaptive, short-term psychological helping-process that focuses solely on an immediate and identifiable problem. It can include pre-incident preparedness to acute crisis management to post-crisis follow-up. Its purpose is to enable people to return to their daily routine more quickly and with less likelihood of experiencing post-traumatic stress disorder (PTSD).”

Some authors feel that CISM is more applicable to emergency responders than to primary victims of a critical incident. Even if that is accurate, many of the principles contained within the study of CISM can be applicable to

helping a pilot.

One of the most important of these is the concept that people relate to a critical incident better within a peer group. As pilots, we all have peers within the aviation community. However, is this the same group we would relate to after an accident? Perhaps not. I found that my flying friends were great in dealing with me as friends, but they did not quite understand the sense of guilt, fear and self-doubt that can result from a serious crash. I felt that the potential benefits of CISM are so important that I became certified in CISM.

At EAA AirVenture Oshkosh 2015, I met another pilot who had experienced a crash that resulted in serious injuries to both himself and his wife. His road to recovery took a long time, so he wrote a book describing his accident experience and his road back to flying.

I realized then, that in spite of the lack of resources dealing with this issue, I had found one pilot who clearly understood what it took to get back into the cockpit. Surely, there must be many others who have had similar experiences.

These impressions and beliefs led to the idea of creating a general aviation support group for aircraft accident survivors called “Back To The Cockpit” (BTTC). We are pilots supporting pilots.

We have developed resources for general aviators and offer guidance on reducing the impact of an accident and related stress reactions, helping pilots return to the cockpit.

FLIGHT EXPERIENCES

We are constantly looking for additional information, which could help a pilot who has experienced an accident or serious incident.

Back To The Cockpit was formed to be an open-access support group. Our website, www.BackToTheCockpit.org, provides an ever-increasing list of resources that may be useful to an individual pilot seeking to return to flying after an accident.

I hope that you will find the resources useful. Please do not hesitate to contact us with questions, comments, or suggestions. Remember, you are not alone.

EDITOR'S NOTE: Gus Hawkins is an attorney in the Milwaukee, Wisconsin area. See Back To The Cockpit on Facebook at: facebook.com/groups/BackToTheCockpit. Gus Hawkins is the founder of the organization. Email BackToTheCockpit@gmail.com, or call 219-201-4150. □

When Things Go Wrong...

by Woody Minar

In my 16 years and 8,000 flight hours, I've had more than my share of things go wrong in at least a dozen airplanes; on average, about one every 200 hours. I'll share some of my equipment failures and what I did to correct each. For brevity, I'll exclude the right engine that failed in a twin on base-to-final and when the gear initially failed to come down on two different twins.



Woody Minar

Let's start with my 24 alternator failures. No, make that 25. I just had another one on January 18, 2017. The first one was during my first solo at night right after I got my private pilot certificate. I've also had three while IFR in the soup and about a year ago I had three within 24 hours in three different airplanes. If you don't get a warning light or happen to notice the ammeter discharging, the first indication is usually fuzzy audio when speaking on the radio or the intercom. Other indications are dimmed cockpit lights, unable to key up runway lights or extend/retract flaps, or the GPS shutting down for no apparent reason.

Consider landing as soon as possible. While it varies, I've found that you have only about 30 minutes before there's not enough power left in the battery. Shut down everything you don't need. A transponder and Nav/Com radio is all you need during the day if IFR; if VFR, consider shutting off all electrical to conserve battery power in case you need it later. What about anti-collision lights? I would say you've got a potential emergency; I'd shut them off during the day.

Obviously, you don't want to be flying at night with no lights!

Normal troubleshooting would be to cycle the alternator master switch; sometimes this reactivates the alternator. Check the circuit breakers. Reset no more than two times. If everything is shut off and the breaker pops, it's most likely the alternator itself. If it resets, turn on one piece of equipment or light at a time; something could be causing it to pop or it was a onetime event. You'll soon find out.

I've had two directional gyros, two turn coordinators, an attitude indicator, and two vacuum pumps fail in flight. If you have an alternate vacuum source, switch to that. Carry sticky notes or instrument covers with you to cover up the failed instrument(s). If you don't, watching them tumble will drive you crazy.

Admittedly, I've had two instances of fuel exhaustion. Little else gets the heart pumping like this. Both times were in our Cherokee Six-300 where there are four isolated tanks. On one occasion, we were on our way to the Indy 500, and I asked a passenger who didn't like to fly to help me monitor the fuel on a certain tank and to let me know when we were getting to within five gallons. We had a short discussion on him failing the task and I took the blame for not training him well enough.

Another time was an uneventful IFR trip to EAA AirVenture Oshkosh. Chicago Center handed us off to Oshkosh Tower and we were to report a three-mile final on an unused VFR arrival runway. Soon tower advised us to watch for VFR traffic now arriving in sync with us. It got very busy. When we were told to go around because of a pilot screw up in front of us, the engine coughed and sputtered. Instinct kicked in: switch tanks; fuel pump on. All was well again. This happened because all our attention was diverted to fitting in with the now arriving VFR traffic; our landing checklist wasn't used. As a result of this experience, we now know it takes exactly one full tank, 26 gallons, to get to Oshkosh from Osceola, Wisconsin.

Setting up an automatic or count down timer on the GPS, Transponder, or external stopwatch works wonders, but you have to acknowledge it. Our Garmin 430 lets us know every 30 minutes to check the fuel.

Have you ever had a magneto fail while IFR in the soup? I first suspected it was carb ice, but I wasn't absolutely sure. When shooting the VOR approach, my first task was to fly the airplane, then troubleshoot when stabilized. I broke out, landed, and had the magneto repaired.

It's wise to carry a fire extinguisher in the plane. A friend of mine had a Cessna 182 engine fire on the ground and



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was able to put it out quickly because of this. For me, the flight school had a Cessna 150, which was historically hard to start in the winter. My student and I were trying to start it when smoke started entering the cockpit. This was a good indication that things were not as they should be. We continued cranking, hoping it was a carburetor fire and that it would be sucked out. It wasn't. We bailed out, and I ran to the FBO to get a fire extinguisher and put out the flames. For a while, I had visions of a heap of melted aluminum sitting on the taxiway. Fortunately, it all worked out. The Cherokee also had an engine fire on the ground. Winter starting procedures are different than summer...know them!

Not much can be done when the electric flaps won't retract

(three times) and you're already airborne. Cycle the flap switch and check the breakers. Carefully fly the plane with a low angle of attack and land as soon as you can.

If you haven't had something go wrong, give me a call. The odds are, you will someday.

EDITOR'S NOTE: Woody Minar is a DPE, Master CFI, CFII, MEI, CFI-G, ASEL/ASES/AMEL/AMES at Osceola Municipal Airport (KOEO) in Osceola, Wisconsin.

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

Transition Training from Fixed-Wing to Rotary-Wing

by Yasmina Platt

I recently added "Rotorcraft – Helicopter" to my green plastic certificate and I quickly learned that science is what gets helicopters in the air, but art is what keeps them flying. Flying a Robinson 22 is like flying a low-to-the-ground sporty convertible with fantastic visibility, maneuverability, and versatility. Learning to fly one made me feel more like a juggler than a pilot.

The differences between airplane and helicopter flying are immense. So much so that it did not feel like "just an add-on" or transition training; it felt like learning to fly all over again. I only found a few things transfer or are helpful when transitioning to helicopters, to include pilot privileges and limitations, weather, communications, or regulations, to name a few; however, most of those affect helicopters slightly differently.

The rest is pretty much another world. The obvious difference is the fact that helicopter pilots sit on the right side, but there are a lot more: 1) aircraft capabilities, performance, and limitations, 2) many more aerodynamic theories and applications, 3) flight controls and systems, 4) weight and balance considerations, 5) safety around helicopters, 6) flight operations, maneuvers, and procedures, and 7) emergencies and hazards.

I will now highlight some particularly interesting examples here; however, for a copy of this entire article, visit www.airtrails.weebly.com/other.

The word "helicopter" is linked to the Greek words "helix/helikos," which means "spiral" or "turning" and "pteron," which means "wing." So, the four principles of flight apply to both types of aircraft; however, helicopters



have a long list of additional aerodynamic principles we do not study in "airplane training." Some of those include dynamic rollover, low G/mast bumping, translating tendency or tail rotor drift (somewhat similar to an airplane's left turning tendency), dissymmetry of lift (on both the main rotor and the tail rotor), Effective Translational Lift (ETL), catastrophic rotor stall (very similar to the stall of an airplane wing at low airspeeds, except in helicopters, it occurs

due to low rotor RPM, instead of low airspeed), and Loss of Tail Rotor Effectiveness (LTE).

Yes, helicopters are incredibly capable, but I was surprised to learn about their limitations (e.g. not being able to hover out of ground effect in certain conditions) and things you can do but you want to minimize doing (i.e. the height-velocity diagram in the R-22). I mean, really surprised. There's a lot to take into consideration. They are not quite as "superman" as I thought...

I also would have never thought changing frequencies would become one of the hardest things to do, but I initially found it to be that way. Even though some helicopters (like Robinsons) have trims, they are not like airplane trims, where once you set it, the airplane will stay pretty stable and you can let go for a while before a correction is needed. You literally cannot let go of the cyclic (right hand), and some helicopters have pretty sensitive collectives (left hand), making it hard to let go of it in order to change frequencies, look at charts, etc. I learned that the only safe way to do it was to temporarily set the collective's friction lock to keep it from lowering immediately.

Oh, and how in the world did people fly, without doors, and paper charts in helicopters just a few years ago? Phew!

How did they manage to flip it to the right area? I want to bow to them.

While going slow in an airplane is frowned upon (and rightfully so), it is one of the most beautiful things in helicopters. But, I'm not going to lie...the transition from seeing the airspeed indicator go from an approach speed of about 60 kts in a small GA plane, to close to 0 kts for a steep approach in a helicopter, raised up my blood pressure a bit at first.

I see no real Center of Gravity (CG) difference between flying an airplane solo vs flying one with another flight instructor or passenger. But, whoa, that is not the case in a helicopter. It is way different! With both seats occupied, the helicopter is pretty balanced. However, when you remove the left seat weight, it is no longer balanced and pilot inputs need to counteract the difference in acting behavior. When picking up by myself, I had to add a good amount of left cyclic (to counteract the weight difference) and left pedal (to counteract translating tendency). When setting down, I had to lower the collective firmly so it did not lift again as it was lighter than normal. The helicopter also had a tendency to go backwards in both scenarios.

I can also understand now why most dual rated pilots will not fly both types of aircraft on the same day. The question is not whether or not a person can fly both safely in normal conditions, but whether that person will react

to an emergency correctly should one occur. All aircraft have different systems and work slightly different, but in an emergency, these contrasts could cause a pilot to confuse one for the other and the brain/reflexes may not react correctly.

For example, recovering from what may sound like an airplane's "stall warning horn" in a helicopter (low RPM instead) could result in a fatal accident.

What is the first thing you do in an airplane when recovering from an aerodynamic stall? Fairly aggressively lower the nose, right? Well, doing that in a helicopter: 1) actually lowers the RPMs even more, which could result in a rotor stall (especially if the pilot also adds power by raising the collective), and 2) may cause a low G/mast bumping situation which, in turn, results in main rotor shaft separation and/or rotor blade contact with the fuselage. Ouch! In addition, airplane pilots do not normally pay attention to RPMs after they have lost the engine, just airspeed. However, if you lose the engine in a helicopter, controlling rotor RPM (and airspeed although in a second place) means life!

There is no question helicopters are far more expensive, versatile, and challenging than airplanes, but nothing worthwhile comes easy in life.

Special thanks to The Whirly-Girls for selecting me as their 2016 Helicopter Add-on Flight Training Scholarship recipient and giving me the opportunity to fly these incredible machines we affectionately call "choppers." □

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AOPA Ready To Help You Fly Under BasicMed

by Mark R. Baker
President & CEO

Aircraft Owners & Pilots Association

No matter if you are an active pilot or if you've been away from the left seat for a while, AOPA is ready with the resources and expertise to help you understand and fly under BasicMed.



Mark Baker

To help pilots take full advantage of BasicMed, AOPA has launched a suite of online resources called Fit to Fly, which is dedicated to helping aviators as well as physicians understand the new regulations. It's available at aopa.com/FitToFly.

From the free AOPA Medical Self-Assessment Course to a guide designed to help physicians understand and perform the required examination, Fit to Fly has a wealth of information and answers to all your questions about the reforms that we fought so hard to achieve.

To take advantage of BasicMed, we encourage qualified pilots to first complete the pilot information and medical history portion of the FAA Medical Examination Checklist then schedule an exam with a state licensed physician who will complete the form. Following the exam, pilots should complete the free online AOPA Medical Self-Assessment Course, print the certificate, and keep it in your logbook along with the Medical Examination Checklist. Pilots must undergo the physical exam every 48 months and complete the free online course every 24 calendar months. Finally, make sure to meet the flight review and other proficiency requirements before getting back in the air.

AOPA's online course is free, will take about an hour to complete, and you can save your progress to return later if you'd prefer not to finish it in one sitting. Additionally, if you do not pass the course on your first try, you can review the course materials and take it as many times as needed to receive the minimum score of 80 percent.

If you've been away from flying for a while, don't worry. Find an instructor, or ask AOPA to help you find one, and sign up for a Rusty Pilots seminar. The program has already put 3,500 lapsed pilots back in the left seat and we are hosting seminars across the country that are free for members. You can learn more at aopa.org/rustypilots.

And if you have any further questions or issues, you can speak directly with AOPA's experts in the Pilot Information Center by calling (888) 462-3976 Monday through Friday, 8:30 a.m. to 6:00 p.m., Eastern Time, or emailing pilotassist@aopa.org. □

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Minnesota Aviation Day At The Capitol Symbolizes GA Unity



ST. PAUL, MINN. – Members of three professional aviation organizations in Minnesota gathered April 26, 2017 to meet with their respective state legislators at the State Capitol in St. Paul. Meetings were scheduled in advance. Topics discussed ranged from airport development to tuition reimbursement for Minnesota residents seeking careers in aviation.

Event coordinator, Gordon Hoff of the Minnesota Business Aviation Association (MBAA), and representatives of the Minnesota Council of Airports (MCOA) and Minnesota Aviation Trades Association (MATA), created the following list of talking points:

1. The importance of adequately funding the Minnesota Airport System, and the correlation between a community having a good airport and a strong economy.
2. Support for proposed changes to Minnesota airport zoning statutes, which would improve the integration of airport zoning with local planning and zoning.
3. Remind legislators that the Minnesota Airports Fund is

totally user fee generated through the aircraft registration tax, flight property tax, and fuel tax, and that no general funds are used for airport development.

4. Aviation has a \$12.1 billion economic impact on the Minnesota economy, and provides nearly 165,000 jobs, generating more than \$6.4 billion in labor income.

5. Medium and small general aviation airports are important to local businesses, and are used for medical air services, firefighting, aerial application, and the inspection of pipelines and transmission lines. Only nine (9) airports in Minnesota are served by the airlines, while all 134 public-use airports are used by general aviation.

The featured speaker of the event was Representative Paul Torkelson (R), a farmer from Hanska, Minnesota (District: 16B). Rep. Torkelson was recently appointed chairman of the House Transportation Finance Committee, and when asked if he knew that the aviation community was made up of three segments – airlines, military and general aviation –



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Minnesota State Representative Paul Torkelson of Hanska, Minnesota, chairs the House Transportation Finance Committee.
Dave Weiman Photo

he elaborated on the importance of general aviation to the air transportation system.

Torkelson, 64, was first elected in 2008, holds a Bachelor's Degree in Education from Gustavus Adolphus College, is married, has two children, and has flown in small general aviation aircraft.

Minnesota Aviation Day At The Capitol will be expanded in 2018 to involve more airport managers and commission members, and pilots and pilot organizations, including the Minnesota Pilots Association (MPA), Minnesota Seaplane Pilots Association (MSPA), Aircraft Owners & Pilots Association (AOPA), Commemorative Air Force (CAF), and Chapters of

the Experimental Aircraft Association (EAA). In addition, airport consultants, aircraft manufacturers, corporate flight department managers, and other leaders throughout the Minnesota aviation community, will be encouraged to participate. For details, stay tuned to future issues of *Midwest Flyer Magazine* in print and online at www.MidwestFlyer.com.



Nancy Grazzini-Olson, President of Academy College, Bloomington, Minn., and Thunderbird Aviation, Flying Cloud Airport, Eden Prairie, Minn., met with Minnesota State Senator Eric Pratt, who represents District 55 in the southwestern area of the Twin Cities.
Dave Weiman Photo

MATA – Investing In The Future!

One goal of the Minnesota Aviation Trades Association (MATA) is to invest in future aviation professionals through “MATA’s Scholarship Program.”

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Greg Reigel
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Caitlyn Brady
MN State Univ-Mankato
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MATA – The Choice & Voice of Aviation Businesses Since 1945

Representatives From Minnesota's Top Three Professional Aviation Organizations Meet With Minnesota Congressional Delegates

WASHINGTON, D.C. – The president of the Minnesota Aviation Trades Association (MATA), Greg Reigel, along with Joe Hedrick from the Minnesota Council of Airports (MCOA) and Gordon Hoff, Executive Director of the Minnesota Business Aviation Association (MBAA), made their annual trip to Washington, D.C. to meet with Minnesota's Congressional delegates. On March 21 and 22, Reigel, Hedrick and Hoff met with Representatives Nolan, Peterson, Paulsen and Emmer, as well as staff members from the offices of the remaining delegates.

In their meetings, they discussed the new administration's call for privatization of the nation's Air Traffic Control System, and explained the adverse impact it would have on general aviation. They stressed the need for the Federal Aviation Administration and Congress to retain oversight of the Air Traffic Control system. Although not perfect, the existing system is working and improving. Additionally, the group noted the risk that privatization would result in a decrease in investment in research and development, as well as rural airports.

Reigel, Hedrick and Hoff also emphasized the need for a multi-year reauthorization that will sustain funding for multi-year projects, and reiterated the industry's frustration with the last reauthorization and the adverse impact it had on the industry, as a result of multiple continuing resolutions that were required before final reauthorization was passed. They stressed the need for certainty to facilitate airport construction projects in Minnesota and elsewhere.

Continuation of Essential Air Service (EAS) for rural communities that need assistance to keep commercial air service at their airports was also stressed. EAS provides

accessibility to the National Airspace System (NAS), promotes business development in rural areas, and is entirely funded by use of the NAS.

In each of their meetings, the association representatives discussed the shortage of pilots and aircraft technicians and how these shortages are already impacting general aviation. To that end, they highlighted how tuition assistance may help address the decline in pilots and aircraft technicians and encouraged the delegates to find ways to provide additional incentives to increase the supply of qualified aviation professionals.

The group also discussed the ongoing confusion with the Internal Revenue Service's attempt to impose federal excise tax (FET) on aircraft management services. They observed that aircraft management services are not "air transportation," and as such, should not be subject to FET. They urged delegates to support pending legislation to exempt aircraft management services from FET.

Finally, the group discussed the FAA's recently organized Regulatory Consistency Communications Board and encouraged delegates to support the FAA's initiative and create a Master Source Guidance System as quickly as possible.

In closing, Reigel, Hedrick and Hoff thanked those delegates who are already members of the General Aviation Caucus for their participation, and encouraged those who are not to consider joining. The conversations were productive and the delegates and their staffs all recognized the importance of general aviation to both the economy and the National Air Transportation System. The group looks forward to working with delegates in the future to support and grow general aviation in Minnesota. □

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National Trade Groups Say White House's Air Traffic Control Privatization Budget Bad News For Small & Mid-Size Towns

WASHINGTON, DC – National Business Aviation Association (NBAA) President and CEO Ed Bolen strongly opposes the Trump Administration's budget released March 16, 2017, which appears to endorse privatizing the nation's Air Traffic Control (ATC) system, noting that such a move could adversely affect, among others, countless small and mid-size communities across the country, which rely on general aviation.

"We know that the notion of privatizing ATC has for decades been pushed by large airlines," Bolen said. "Under such a proposal, the ATC system – which is a natural monopoly that currently serves the public's interest, and is overseen by the public's elected representatives – would be turned over to a non-governmental entity effectively controlled by the airlines.

"Under such a scenario, the small and mid-size towns that rely on access to general aviation for everything from civil services, to emergency support, to business access and more, could have their access to airports and airspace threatened," Bolen continued. "This is among the many important reasons NBAA has long been very concerned over the big airlines'

proposal. Simply put, privatization of the ATC system would benefit commercial airlines at the expense of the citizens, companies and communities that rely on general aviation.

"We continue to welcome the renewed focus in Washington on infrastructure investment, including for aviation," Bolen added. "We will keep working with Congress, not on a distracting debate over ATC privatization, but on truly modernizing the aviation system, with policies that offer targeted solutions to identified challenges. That's the best way to ensure that all Americans have access to our nation's critical aviation infrastructure, 5, 10 and 25 years from now."

The idea of privatizing ATC has been put forward as part of the continuing congressional debate over the reauthorization of funding and programs for the Federal Aviation Administration. The concept has been strongly opposed by a diverse group of conservative and liberal think tanks, consumer groups, rural organizations, general aviation associations, federal and local policymakers, and a majority of American citizens. The budget proposal released by the president is the administration's blueprint for federal spending in the coming fiscal year, but Congress has the



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ultimate authority on the budget, and will reflect its direction regarding aviation, and other matters related to the nation's infrastructure (www.nbaa.org).

The Aircraft Owners & Pilots Association (AOA) weighed in on the issue of privatization as well, stating that the White House proposal would shift the air traffic control function of the Federal Aviation Administration to an independent, non-government organization. Sen. Bill Nelson (D-Fla.), ranking member of the Senate Commerce Committee, said the proposal is "going nowhere in the Senate."

"The Aircraft Owners & Pilots Association (AOPA) will review the details of the president's proposal when they are made available," said AOPA President Mark Baker, "and we will continue to oppose efforts to impose user fees on any segment of general aviation."

Likewise, the General Aviation Manufacturers Association (GAMA) stated that many of the challenges with this type of air traffic control reform proposal have been thoughtfully outlined in recent letters by U.S. Senators Jerry Moran (R-KS) and Amy Klobuchar (D-MN), and the leaders of the U.S. Senate Appropriations Committee. GAMA agrees with Transportation Secretary Chao and Senators Klobuchar and Moran that before any action is taken, there needs to be a dialogue among all stakeholders, including civil and defense users of the National Airspace System, to achieve national consensus on any potential changes to the U.S. air traffic control system. We need to be certain that as we try to solve specific problems, we do not create others.

National Aviation Organizations Weigh In On User Fees & ATC Privatization Proposal

With the need to authorize the Federal Aviation Administration before September 30 of this year, a host of general aviation association leaders joined together March 21, 2017, to send letters to House and Senate transportation leaders underscoring "real and long-standing concerns" regarding a concept being pushed by some big airlines regarding air traffic control. Specifically, the organizations cited concerns over a proposal promoted by some big airlines

for the creation of a new governance and funding model for our nation's aviation system, based on systems in other parts of the world.

"The general aviation community has very real and long-standing concerns, which include but are not limited to user fees," the letter states. "These concerns are based on our operating experiences in these foreign systems and the impact they have had on general aviation."

The letters were signed by the Experimental Aircraft Association (EAA), Air Care Alliance, Aircraft Electronics Association, Aircraft Owners and Pilots Association, Citation Jet Pilots, Commemorative Air Force, General Aviation Manufacturers Association, Helicopter Association International, International Council of Air Shows, National Agricultural Aviation Association, National Association of State Aviation Officials, National Air Transportation Association, National Business Aviation Association, Recreational Aviation Foundation, U.S. Parachute Association and Veterans Airlift.

The letters were sent to House Transportation and Infrastructure (T&I) Committee Chair Bill Shuster (R-Pennsylvania), Ranking Member Peter DeFazio (D-Oregon), T&I Aviation Subcommittee Chair Frank LoBiondo (R-New Jersey), and Ranking Member Rick Larsen (D-Washington), as well as Senate Commerce Committee Chair John Thune (R-South Dakota) and Bill Nelson (D-Florida), and Aviation Subcommittee Chair Roy Blunt (R-Missouri) and Maria Cantwell (D-Washington).

These letters support the concerns expressed by EAA CEO and Chairman Jack Pelton, responding to news that the White House included an endorsement of privatizing air traffic control services in its budget proposal.

"Under such a system, ATC would be overseen and managed by a board made up of commercial interests, with the nation's airlines having the most powerful and numerous voices," Pelton said. "These interests would inevitably drown out whatever token representation and economic impact GA would have on such a board, creating an ATC system that would serve commercial interests with the greatest financial resources." □

GAMA Praises U.S. Congress For Protecting & Funding Aviation Priorities

WASHINGTON, D.C. – The General Aviation Manufacturers Association (GAMA) praises the U.S. Congress for passing the Fiscal Year 2017 Omnibus, providing key funding for general aviation manufacturers in safety, certification, and alternative fuels. The bill, which now heads to President Trump for his signature, will fund the U.S. government through September 30, 2017.

The bill provides \$1.29 billion for aviation safety activities, including \$1.5 million of that amount for six additional full-time equivalent positions to support the certification of new

technologies. The measure also directs the Federal Aviation Administration (FAA) to work with industry to achieve the goal of improving the effectiveness and efficiency of product certification, including fuller utilization of organization designation authorization (ODA), something for which GAMA has strongly advocated.

Additionally, the measure emphasizes the importance for FAA to continue to "strengthen international aviation safety cooperation and improve the flow of aviation products globally through strategic engagement with the European

Aviation Safety Agency (EASA), Transport Canada Civil Aviation (TCCA), and National Civil Aviation Agency of Brazil (ANAC).” These efforts should leverage the respective safety competencies of bilateral safety partners to streamline validations of products and reduce burdensome and duplicative work by regulatory specialists.

The bill also provides \$7 million for NextGen – Alternative Fuels for General Aviation, \$1.2 million more than the request. This funding will ensure that the necessary aircraft and engine testing is undertaken to support required FAA approvals and authorizations for the transition of the

piston aircraft fleet to an unleaded aviation fuel.

The explanatory statement accompanying the bill includes by reference language that raises concerns about the removal of the U.S. Air Traffic Control system from the Federal Aviation Administration, citing removal as “fraught with risk, could lead to uncontrollable cost increases to consumers, and could ultimately harm users of and operators in the system, including the flying public, the aviation community, FAA’s workforce, and the small towns in rural America that rely on access to the national air space.” □

AOPA Battles Against Excessive FBO Fees

FREDERICK, MD – The Aircraft Owners & Pilots Association (AOPA) is taking on the big airport flight centers against excessive fuel rates and ramp fees. AOPA says that consolidations contribute to unfair pricing.

For instance, it was reported recently that overnight parking at Baltimore-Washington International Airport totaled \$153.00 for the owner of a single-engine piston aircraft, and avgas was \$8.00 a gallon. This is just one of hundreds of reports submitted to AOPA by members when AOPA began seeking information from members earlier this year.

Don Mayer, AOPA director of research and analysis, has compiled the results. Scores of them fall into a category he calls “exceptionally egregious,” the arbitrary cutoff being fuel that is more than \$6 a gallon or fees for minimal or no services topping \$100. AOPA urges members to continue to report such incidences online at www.aopa.org/FBOfees.

AOPA found that some 40 percent of the most egregious fees have come from locations where Signature Flight Support is the only fixed base operator on the field. Signature, already the largest fixed base operator chain in the world, acquired Landmark Aviation, the third largest chain, in

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Map showing Lakeland Linder Regional Airport location relative to Orlando, Disney, Legoland, and other nearby airports.

early 2016, giving it approximately 160 locations globally. Landmark had doubled in size the year before when it acquired Ross Aviation, part of a growing pattern of FBO chains consolidating. A few years earlier Landmark acquired Encore Aviation and several independent FBOs. The next largest chain is Atlantic Aviation, which has approximately 70 locations.

Few general aviation pilots can relate to what it costs to operate a Gulfstream 650, but most will agree that \$2,500 to park for 15 minutes while dropping off a passenger at Boston's Logan International Airport, a Signature location, is high even by business jet standards. The same operator paid another \$2,500 a few days later to pick up the same passenger. But such fees are not exclusive to Signature.

"It's all about access to public places," said AOPA President

and CEO Mark Baker. "Pilots who don't want or need services should not be held prisoner on a public ramp. At many of these locations, there is no way to pass through a gate without going through an FBO lobby. We're asking the FAA to look at giving GA pilots unfettered access between the ramp and the parking lot."

Baker, and many of the commenters responding to AOPA's request for more information, point out that most of the ramps in debate were built with federal tax dollars and then leased by the airport owner to the FBO.

"Essentially the FBOs are a concessionaire. The problem is pilots don't have a choice of purchasing services or not. They are charged just for showing up—held hostage, if you will," said Baker. □

NASAO Looks Ahead On EAS Funding In Next Spending Bill

McLEAN, VA. – Congress passed a one-week stopgap-spending bill, April 28, 2017, that funds the government at current levels. At press time, Congress was expected to pass an omnibus-spending bill in May that would fund the government through September 30.

In conjunction with the Trump Administration's recently released "Budget Blueprint" for FY 2018, it was also recommended that Congress enact non-defense discretionary reductions of \$18 billion in FY 2017 in order to offset proposed appropriations increases for the Department of Homeland Security and Department of Defense. The President's blueprint proposed eliminating the Essential Air Service (EAS) program, which protects more than 170 small communities from losing commercial air service. EAS funding is derived from a combination of revenue from the Airport

and Airway Trust Fund and overflight fees collected by the FAA.

"It is imperative, in our view, that Congress maintains full funding for the Essential Air Service program to keep numerous small and rural communities connected to the global marketplace and preserve this lifeline of services, goods, and economic activity," said National Association of State Aviation Officials (NASAO) President Mark Kimberling. "As Congress continues deliberations on the FAA reauthorization and the spending bill, NASAO will continue its work in supporting and improving small community access to air service – to include the sustainment of both EAS and the Small Community Air Service Development Program as cornerstones of these efforts." □

AOPA Urges Canada, Bahamas & Mexico To Recognize "BasicMed"

The Aircraft Owners & Pilots Association (AOPA) is urging Canada, the Bahamas and Mexico to recognize the new FAA medical certification rule "BasicMed," which pilots certified in the United States began using, effective May 1.

The three countries are among the most popular destinations for general aviation pilots, "and we would like to see this continue and even grow," said AOPA President

Mark Baker in letters to the top transportation officials of Canada, the Bahamas, and Mexico. Travel to these three countries represents 86 percent of annual international flights by U.S. general aviation pilots. Not allowing such general aviation flights could drastically impact foreign travel to these countries.

To take the BasicMed course, go to <https://basicmedicalcourse.aopa.org>. □

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Thunderbird Aviation Named Cirrus Flight Training Center

EDEN PRAIRIE, MINN. – Thunderbird Aviation has entered into an agreement with Cirrus Aircraft to be an authorized Cirrus Aircraft Flight Training Center. Beginning June 1, 2017, Thunderbird will provide a 2017 Cirrus SR-20 for training and rental at its Flying Cloud Airport facility in Eden Prairie. “We are thrilled to partner with Cirrus Aircraft to bring together their world-class aircraft, together with our 55 years of flight training experience,” commented Nancy Grazzini-Olson, President, Thunderbird Aviation.

The 2017 Cirrus SR20 features the ultra high-speed Cirrus Perspective+™ by Garmin® flight deck, luxury automotive-inspired Cirrus Spectra™ wingtip lighting, premium cockpit connectivity solutions and more!

Since 2008, Thunderbird Aviation has been executing on its vision to be Minnesota’s premier aviation company by reinvesting in its facilities, aircraft, employees and equipment. Thunderbird’s commitment to Minnesota’s general aviation community remains steadfast, and adding a new Cirrus to its operation demonstrates their desire to give Twin Cities pilots value in aircraft rental and flight training.

In 2010, Thunderbird Aviation built a world-class executive terminal at Flying Cloud Airport, added three

new King Air aircraft to its charter fleet, acquired three new fuel trucks, a new Lektro aircraft tug and ground power unit, expanded its FAA approved Part 141 flight training programs, revamped its Crystal facilities, and through its new relationship with Cirrus Aircraft, Thunderbird continues to grow and expand its services.

Thunderbird Aviation hosted an exclusive reception on May 16, 2017 to welcome its new partnership.

For additional information, call Thunderbird Aviation at (952) 941-1212 (Eden Prairie, MN), or (763) 533-4162 (Crystal, MN), and visit www.thunderbirdaviation.com.

Thunderbird Aviation, a leader in aviation since 1962, is a full-service provider of aviation fuel and aircraft maintenance at both Flying Cloud Airport and Crystal Airport in Minneapolis/St. Paul, Minnesota. The company is also the largest flight school in the Twin Cities and has the largest variety of aircraft for public rental and flight training in Minnesota. Thunderbird Aviation is also the only flight school in the region that can provide all training and testing in house, using its FAA computerized testing center and FAA designated check airmen.



Premier Jet Center Appointed Cirrus Service Center

EDEN PRAIRIE, MINN. – Premier Jet Center has been designated an authorized service center by Cirrus Aircraft Corporation at its facilities at Flying Cloud Airport (KFCM) in Eden Prairie, Minn. The flight center will hold an open house, June 9, 2017, to commemorate its new designation.



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Flightstar Appoints Quality Control Manager

CHAMPAIGN, ILL. (KCFM) – Flightstar Corporation has appointed Robert “Bob” Dorsey as the Quality Control Manager. Over the past 35 years in the aviation industry, Dorsey has held such positions as Quality Control Manager, FAA Accountable Manager, Assistant Project Manager, Chief Inspector, and Quality Control Auditor.

Founded in 1978, Flightstar is an aviation service organization located at the University of Illinois-Willard Airport in Champaign, Illinois (KCFM). With over 120,000 square feet of hangar space, the company offers a wide range of services including a full-service fixed base operation (FBO), airline and general aviation maintenance, repair and overhaul operations (MRO), avionics sales with installation and repair, and world-wide executive jet charter with full aircraft management services. Flightstar is a Bombardier Authorized Service Facility (ASF) for the Learjet 40, 45, 70, and 75 series of aircraft. Additionally, Flightstar operates as a Honeywell Authorized Service Center for the TFE731 series, HTF7000 and Honeywell APU.



Jeppesen & ForeFlight Form Alliance To Deliver Leading Apps & Flight Information To Pilots

ALEXANDRIA, VA. – Jeppesen, a Boeing Company and a leader in aviation navigation and operational efficiency solutions, and ForeFlight, the innovative provider of mobile and web aviation applications, have announced that the companies have entered into in a long-term strategic alliance to combine their industry-leading capabilities and worldwide content. Together, Jeppesen and ForeFlight will build on their common heritage of delivering superior data and software to pilots and flight operations around the globe.

“We are thrilled to bring together Jeppesen’s world-class aeronautical data with the unmatched advanced technology of ForeFlight,” said Ken Sain, chief operating officer, Jeppesen. “This will create a new benchmark for delivering navigation, flight information and operational solutions with greater regularity and speed for every aviation segment, from recreational pilots to the world’s largest airlines.”

“This strategic alliance will enable ForeFlight and Jeppesen together to bring advances in capability to customers globally that neither company could accomplish on its own,” said Tyson Weihs, co-founder and chief executive officer of ForeFlight. “Both companies share common values and purpose – delivering next generation power and productivity to pilots with superior customer service.”

The alliance focuses initially in two areas. First, beginning this summer, all ForeFlight subscribers will see Jeppesen global navigational, terrain and obstacle data in ForeFlight Mobile. ForeFlight subscribers on individual

plans will be able to link their Jeppesen license in ForeFlight Mobile and purchase standard worldwide Jeppesen charts for use inside the app through a simple e-commerce experience on foreflight.com. General aviation pilots will be able to choose between Jeppesen Mobile FliteDeck and ForeFlight Mobile as their preferred cockpit solution. Subscribers to ForeFlight Business Plans will purchase chart coverages through Jeppesen and then link them to their ForeFlight subscription for use inside the ForeFlight Mobile app.

The alliance’s second area of focus serves users of Jeppesen FliteDeck Pro, the leading EFB solution for airlines and large-scale operators. Jeppesen and ForeFlight will work together on a next-generation release of FliteDeck Pro for both iOS and Windows that will deliver a combination of the familiar capabilities in FliteDeck Pro and significant features and functionality from ForeFlight Mobile. The solution will respect the heritage of FliteDeck Pro, while also embracing capabilities from ForeFlight Mobile that many professional pilots already have experience using. Jeppesen and ForeFlight are working together closely with FliteDeck Pro customers in advance of bringing this to market to ensure the training impact is minimized. FliteDeck Pro customers will continue to receive application and content updates from Jeppesen. This alliance builds upon Jeppesen’s major new release of Jeppesen FliteDeck Pro, which is being deployed worldwide.

“We’re excited to bring Jeppesen charts and data to ForeFlight Mobile customers. The combination makes ForeFlight Mobile the premier all-in-one mobile solution for planning, briefing, filing, flying, and logging flights across personal and business aviation,” said Weihs.

To view more information on combined Jeppesen and ForeFlight products, visit www.foreflight.com/jeppesen and www.jeppesen.com/foreflight. □



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ForeFlight... The Flight Planning & Electronic Chart Service That Has Revolutionized Flying For All Pilots

Founded in 2007, “ForeFlight” is devoted to giving pilots the best possible mobile electronic flight planning tools for the best possible price using the Apple iPad or iPhone. The company has created fast, elaborate, and useful software for pilots that helps them to be more productive and safer, and to make each flight enjoyable.

ForeFlight reduces the need for costly and cumbersome paper maps and charts. Each subscription contains a full airport/facilities directory (A/FD), detailed weather, approach plates, airport diagrams, flight plan filing capability, and access to NOTAMS, and route and distance information. Information is obtained through a network of user-friendly menus and simple forward and back buttons.

The routing tool gives users the ability to obtain direction and distance information between two airports, as well as the most recent IFR-cleared routing. In addition to the standard



(L/R) ForeFlight founders, Jason Miller and Tyson Weihs at EAA AirVenture Oshkosh. *Dave Weiman Photo*

A/FD information, ForeFlight has information on fixed base operators and transportation information. Other features include a recent screen that brings up recently searched airports with a color-coded weather report on the side. This feature is a quick and easy way to check the status of weather at an airport. The application called “Near Me” enables the pilot to do a quick search of airports and other information near him/her.

Another useful feature of ForeFlight is in identifying Temporary Flight Restrictions (TFRs) and airports with the least expensive fuel.

Filing flight plans using ForeFlight could not be easier. Using a stored template of pre-filled information on the pilot and aircraft, all you need to do is update the flight

plan with such items as “destination,” and “fuel” and “number of people” on board. And if for any reason you need to file a flight plan at the last minute, you can use ForeFlight.

Not only is ForeFlight a useful tool for preflight planning and enroute navigation, it can also provide hours of entertainment when not flying, which helps to maintain pilot proficiency.

Subscriptions start at \$99.99 for “ForeFlight Basic Plus.” ForeFlight came about as a result of two software developers working on the same program who met via the Internet. Tyson Weihs was living in Texas and Jason Miller was living in Virginia. Both are pilots and decided to work

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together, rather than compete with one another. The company is now headquartered in Houston.

Tyson Weihs is cofounder and CEO. Weihs is a software developer and holds a Private Pilot Certificate. His first venture was Atension, a dorm-room startup company that was acquired by a public company in 1999. He then directed software engineering at BenefitFocus.

Prior to ForeFlight, Weihs was a venture partner with SMH Private Equity Group. He holds Bachelor of Science Degrees in Computer Science and Business Administration from Trinity University, and a Master of Business Administration from Rice University.

Jason Miller is cofounder of ForeFlight. He is a software engineer by training and holds a Private Pilot Certificate, instrument rating, and complex gear and high-performance endorsements. He currently co-owns a Cirrus SR22.

Prior to ForeFlight, Miller was Director of Technology at INCOGEN, a bioinformatics company. He holds a Bachelor of Science Degree in Computer Engineering from Clemson University.

Adam Houghton is a Principal and Vice President of Product Development at ForeFlight. Houghton has written software systems for Wyndham Hotels, Radio City Music Hall, and the Texas State Prison System. He has authored articles on mobile computing in Dr Dobbs Journal and IBM developerWorks. Prior to ForeFlight, Houghton was a founding member of the Advanced Computing Lab at SAS Institute. Houghton holds a Bachelor of Science Degree in Computer Science from Trinity University.

For additional information, refer to the ForeFlight website www.ForeFlight.com.

Like most online services, the customer service staff at ForeFlight is small and difficult to reach by telephone.

If you have a question, go to the ForeFlight website, check the list of general questions and answers, and if you still have a question, send them an email at team@foreflight.com. Be sure to include the name of the app you are inquiring about (ForeFlight Mobile, Checklist Pro), and what type of device you have (iPad, iPhone). That will allow ForeFlight to tailor its response. If you are unable to email ForeFlight, you can use the contact form on the Contact page of their website. The ForeFlight customer service department monitors their email from 6 am to 9 pm central time, 7 days a week, and they will get back to you as soon as possible.

So you are probably wondering if flying using only electronic charts is legal, or what happens if your iPad runs out of battery power, or just goes on the kaput? There's an FAA Advisory Circular for just about everything, and there's one on the use of electronic devices.

Advisory Circular (AC) 91-78 deals with the *Use of Class 1 or Class 2 Electronic Flight Bags*. This circular provides information on the removal of paper aeronautical charts and other documentation from the cockpit. You must also comply with FAR 91.21, *Portable Electronic Devices*. This regulation limits the use of electronic devices in the cockpit unless you

have flight-tested and documented that the device does not interfere with your aircraft's systems. Part 91, subpart F, requires operators to ensure compliance with FAR 91.503 at all times.

If you have successfully complied with the FARs, then you are completely legal to use the iPad for electronic charts, providing that the data is current and is a functional replacement of the paper version for Part 91 Instrument Flight Rules (IFR) or Visual Flight Rules (VFR).

But do you need a backup? While the FAA does not require pilots to carry paper, Advisory Circular 91-78 suggests pilots consider carrying a secondary source of aeronautical information. The secondary source could either be paper charts or another separate electronic display. And like any electronic device, even the iPad can run low on battery life. Therefore, it seems like a good idea to keep your iPad charged at all times, and consider getting a charger that is especially made to use with the USB cable that comes with your iPad (check with the Apple Store). The problem with that is, if you are charging the iPad, you cannot use a "Bad Elf" to increase your GPS signal strength during your flight – at least until someone comes out with a dual-purpose plug. If you know of one, please email info@MidwestFlyer.com so we can share this information with our readers. Thank you! □

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Midwest Seaplane Pilot



Asphalt? Grass? Water?

by Woody Minar

Yes, I'll take water with my Cessna 172 on floats. Stirred, not shaken, please! In the beginning, we learned to fly on asphalt and sometime afterwards, we made that first landing on a grass runway. What a thrill to feel the softness and forgiveness of the grass. A few of us have gone on to learn to take off and land on water. Seaplane flying combines the fun of boating with the adventures of flying. When I gave a friend his first seaplane lesson, we weren't 500 feet from shore when he turned to me with a huge smile and said, "My two favorite passions – boating and flying." He was hooked and went on to get his seaplane add-on. Today, he has a Super Cub on amphibious floats (amphibs).

So what makes seaplane flying so much fun? Maybe it's the kid in our hearts and minds. It's the smile that everyone gets when they depart the dock or beach and taxi to the other end of the lake to take off into the wind and then to settle down to land on the water. Whether the seaplane is on straight floats (no wheels) or amphibis (retractable wheels), every lake becomes your playground.

The Seaplane Pilots Association, www.seaplanes.org says it best: "Seaplanes are the ultimate off-road vehicle. They will take your passion for flight to a whole new level. Only three percent of pilots have taken advantage of this amazing skill, and seaplane



"Madden's on Gull Lake," west of Brainerd, Minnesota, during the Minnesota Seaplane Pilots Association Seminar in 2016.

Brad Thornberg Photo

pilots are highly regarded for having greater stick and rudder skills than the average pilot and it shows in their flying. The fun way is no runway... Every landing that a seaplane pilot does is unique, as the water surface and conditions are constantly changing."

Seaplane flying is a different dimension in flying, not unlike flying a tailwheel. Flying is the easy part; we already know how to do that. It's the takeoffs and landings on water that we have to learn—use the basic skills you have and re-define them for water. Keep in mind, every lake has the potential for 360 runways! It's not very often you takeoff or land in a crosswind. It's a different skill set to not only be able to read the wind on the water by looking at the waves, flags, smoke, moored boats, etc., but to determine what's UNDER the water, such as rocks, sandbars, and logs.

Safety, concern for others, and protecting the environment are extremely high on the list of every training syllabus. Besides being noise conscious, the seaplane pilot also needs to watch out for the boats, water skiers, jet skis, swimmers, and fisherman. On the water, the seaplane becomes a "boat magnet" – everyone wants an up-close look at this oddity, and you're the main attraction.

Handling the plane around the dock or a rocky shoreline in a wind can be very tricky. You are manhandling a giant weathervane and aluminum is thin and soft. This is where most of the damage occurs. Puncture a hole below the

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waterline and you've got some serious problems.

Rough water, where the winds are over 15 knots, is very rough on the instruments and the plane itself. A seaplane is very rigid and has no cushioning that tires provide. Water may be soft, but can be as hard as asphalt. A hard landing can easily damage a seaplane. Many firewalls have buckled from a hard landing.

Glassy water landings can be tough because you see shoreline and cloud reflections in the water. It's difficult to know how high you are before you touch down, so we have a technique one learns and uses to make a smooth landing. It is very similar to a soft-field landing. The takeoff can be equally tricky because the water surface tension wants to keep the floats for itself and not let them go unless we use a technique we learned in training.

It sounds difficult, but it's not. Eight to 10 hours of flying is usually enough to get you through the flight portion of the practical test; the oral is more about common sense and risk management. Advanced seaplane training reinforces the basic training.

So, really, what's the hardest part about learning to fly a seaplane? Learning to fly low and slow over the tops of the trees. There's a saying among seaplane pilots that we get nosebleeds and hypoxic when we are flying over a thousand feet AGL (Above Ground Level).

Travel Destinations Aplenty!

Where can you go with a seaplane? With some exceptions (as listed under each state on the Seaplane Pilots Association website), most any lake, reservoir, or river can be our destination and our playground. Whether it's to do splash and goes, dock at a nearby cabin or fly to Canada, the list is endless. For Minnesota and Wisconsin, you can start by searching the Minnesota Seaplane Pilots Association website: www.mnseaplanes.com/destinations.php. There are about 50 fly-in locations listed. The criteria to be listed is that it must have seaplane suitable facilities, seaplane friendly staff and owners, good food, and recreation and lodging opportunities. While too numerous to print here, I've selected a few seaplane destinations to whet your appetite that either I have visited or have heard quite a bit about.

If you want a truly great experience flying in Ontario, Canada with its 250,000 lakes, The **Old Post Lodge** is first rate. About two hours north of Crane Lake, Minnesota (KCDD), you're bound to see moose. Here is what their website, www.oldpost.com, says: "Set on remote Lake St. Joseph, Old Post Lodge is northern Ontario's finest fishing resort and best-kept secret. What began as a Hudson's Bay Company trading post was rediscovered and transformed by the passion and vision of the Grace family. Through their pioneering conservation efforts, this piece of Canadian heritage teams with walleye and trophy northern pike, earning Old Post Lodge its reputation as the northern fishing experience of a lifetime." Old Post Lodge has a nice beach



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Lino Lakes, Minnesota, www.adventureseaplanes.com, offers extended guided trips to Churchill, Manitoba, as well as to the Arctic where you can fly one of their planes or travel as a group in your own plane. These trips offer a lot of sightseeing by air where you can see polar bears and beluga whales, and enjoy great fishing. Their website states "Experience spectacular views by air as you fly over rugged landscapes, sparkling rivers and lakes, and pristine shorelines to set down in one of the world's last great wildernesses."

In Minnesota, Crane Lake hosts **Scott's Resort & Seaplane Base**: www.visitcranelake.com/seaplane-base. Crane Lake is located 28 miles northeast of Orr, Minnesota. The lake's northern shore forms part of the boundary to Voyageurs National Park. Crane Lake is an entry point to the park, and there's a U.S. Customs port of entry for seaplane traffic to and from Canada. Scott's Resort & Seaplane Base has all the amenities you could want, including fishing guides.

Zorbaz on the Lake, <http://zorbaz.com/locationz/grand-rapidz>, on Pokegama Lake is just two miles southwest of the Grand Rapids-Itasca County Airport (Gordon Newstrom Field) in Grand Rapids, Minnesota. They have a dock and a nice sand beach to park your seaplane. Your family can enjoy the lake and swim with a small bar on the beach and a full-service restaurant inside with great food just a couple hundred feet from the beach. Rusty Eichorn has a private seaplane base a mile from Zorbaz. If his plane is there, he might be, too, and he just might take you fishing.

Madden's on Gull Lake, www.maddens.com, is a well-known getaway for the entire family. Fantastic accommodations to meet anyone's style and budget and

activity with some five star golf courses. You can beach your seaplane near one of the lodges or, if you have an amphib, you can land on the grass strip (9Y2). Watch out though, some errant golf balls might come your way from the driving range!

Just south of Red Wing, Minnesota is **The Pickle Factory**: www.pepinpicklefactory.com. Located on the east side of the Mississippi River on Lake Pepin in Pepin, Wisconsin, their restaurant offers shore side dining. On the other side of the river is Ohuta Park in Lake City, Minnesota, adjacent to and north of the Marina. There is a suitable beaching area next to the boat ramp. Tie down the seaplane to a nearby tree and take a short hike into town to shop or eat. Visit the marina with the hundreds of sailboats to see.

Seaplane events this year include: Minnesota Seaplane Pilots Association Annual (MSPA) Safety Seminar at Madden's Resort on Gull Lake (9Y2), Brainerd, MN, May 19-21. Steam Boat Bay Seaplane Base (M16) is nearby, too. The Annual MSPA Pig Roast/Family Day is at Surfside Seaplane Base in Lino Lakes, MN on August 13th. Surfside (8Y4), complete with fuel and maintenance, is the largest seaplane base in the lower 48 states with some 60 aircraft based there.

When is a good time to get your seaplane add-on? Anytime, but spring is the best time. You can take advantage of nice weather and you have the rest of the summer to grab an instructor or, if your flight school offers it, get block time, and scratch that new certificate's itch. The add-on counts as a flight review, too.

EDITOR'S NOTE: Woody Minar is a DPE, Master CFI, CFII, MEI, CFI-G, ASEL/ASES/AMEL/AMES at Osceola Municipal Airport (KOEO) in Osceola, Wisconsin. □

Take The Bet & Get Your Seaplane Rating

by Curt Drumm

It all started with a bet. My friend, Steve, bet me I couldn't fly a taildragger. "Of course I can," I said. The bet was on. I tracked down my favorite tailwheel instructor, rented the local club Champ, and put in the hours. A few days later, I had a fresh sign-off in my logbook.

To collect on the bet, we went down to the Manitowoc Yacht Club, right on the shore of Lake Michigan, Manitowoc, Wis. It was a beautiful sunny evening, light winds, the waves rolling in. As we sat there, a cute little red seaplane came flying along the shoreline. It was beautiful. The evening summer light was shining on it, gently orange from the setting sun behind us. Steve came up with another bet as the seaplane faded away, flying to the north: "Bet you can't fly a seaplane." Of course, the answer was "Of course I can," and the bet was on.

I grew up along the shores of Lake Michigan, and always



loved the water. As a kid, we went up to our cottage in Three Lakes in northern Wisconsin. We learned how to boat up there, swam and water-skied every day. I love living around water, so flying a seaplane was a natural for an aspiring pilot. By the way, if you're ever looking for a nice grass runway to fly to, the Three Lakes Airport (40D) has the best grass strip I've ever seen...about 3400

feet long. If you come in from the north, it's a great view over the water. The Sunset Grill at the end of the runway on the lake is the highlight of that airport for sure. And for seaplane pilots, there is docking available.

Steve and I ended up doing our ratings together in a J-3 Cub on EDO 1340 floats on a small lake called White Lake, about 7 miles south of the Shawano, Wis. airport (KEZS).

Just a little tip...if you ever want to sit and talk seaplanes with a guy who's been doing it for quite a while, stop in and talk to the airport manager, Clarence. He's a great guy with a

lot of history. He is always fun to talk to.

Shawano is a great place to fly into, too, with a couple of restaurants within walking distance of the seaplane base. It is one of the few official seaplane bases in Wisconsin, and has a ramp that slopes right into the lake. If you're in an amphib seaplane, it's fun to drive up from or back into the lake.

It's kind of a unique experience in an airplane, as you transition from floating on the water to being an airplane on the taxiway. Going downhill is even more thrilling...taxiing your plane right into the water. With the plane on amphib floats, it's a different view, being so high up. You're probably 5 feet higher than a regular 172, for instance...kind of like the view from a King Air. For straight float pilots, there are some nice docks, and a restaurant just down the creek. Clarence also offers float service, and it's a great place to go to spring and fall if you're going to take your floats off and put them back on.

Back to the bet. Steve and I spent a couple weeks doing the rating. We probably each had about 10 hours. We were not in a rush...this was far too much fun, so why hurry through it? Plus, I think you learn more if you take your time, thinking about things in between lessons. What a neat experience to come gliding over the shoreline, just a few feet above the trees, to gently splash down in the water.

White Lake, where we trained, has a little hook to it and a couple little islands near the west shore. The total water run is about 4,000 feet, plenty of length for a Cub, but you have to make a gentle turn during your takeoff run to dodge the islands. Flying seaplanes isn't exactly like flying landplanes. It has a whole new element to it. You don't have windsocks, taxiways, or any of the airport niceties, including straight runways. You're on the beach or dock in flip-flops and shorts. Sometimes you get wet. That makes it fun!

Arriving and departing a dock is a whole new experience, too, especially if there's a little wind. Unlike being on a ramp where the wheels are on the ground and the airplane generally stays wherever you park it, seaplanes always weathervane into the wind. In fact, it's part of the certification of a seaplane called positive-weathervaning. Sometimes it helps you coming and going from the dock, but other times it makes that a real challenge.

I remember one arrival at our cottage seaplane dock in Three Lakes where the wind was coming on-shore so strong that every time we got close to the dock and pulled back the power, we lost rudder effectiveness and the plane weathervaned back out, away from shore. We made three attempts to get to the dock and just couldn't do it. Fortunately, my wife, Marisue, loves airplanes and is a great dockhand. We finally made a high-speed taxi past the end of the dock. She jumped off the float and rolled onto the dock, as I kept moving ahead so we wouldn't hit the tail. Finally I circled back in, again with a little bit of power, and with a hefty tug, she grabbed the rope and pulled me in. Whew! I was glad to finally get on shore. We tied up the plane, walked up the hill and enjoyed our favorite Old Fashion overlooking

the seaplane, as the sun set gently to the west. There's nothing prettier than a sunset with a seaplane in your front yard.

Oh yeah, back to the bet. When Steve and I were ready, we took our checkrides and finished up our training. It was bittersweet...exciting to finish up and get a shiny new license in my wallet, but sad at the same time because our seaplane experience came to an end. Steve and I celebrated again at the Yacht Club, running through all the great memories... watching out for boats, dodging birds, and hearing that gentle "whoosh" when we touched down. As we watched the waves roll in on Lake Michigan, that did it for me. I had to have a seaplane.

Shopping for a seaplane is a new experience. Lots of things to think about, watch for and inspect before you make a purchase, but that's a different article.

Our first seaplane was a Piper PA-18 Super Cub on EDO 2000 straight floats. Solid black...we called her "Black Beauty." We had a great summer flying the plane, and my partners and I built up the hours we needed to finally feel comfortable in it. Since then, I've had a couple other seaplanes, but finally settled with a 210 hp Hawk 172XP on Wipline 2350 amphibious floats. The ultimate in versatility, you can land at just about any airport, and also on thousands of lakes.

We're fortunate here in the Midwest, as there are very few seaplane restrictions on our lakes, so we have lots of options.

Over the years in which I have been flying seaplanes, I've logged over 1500 hours on floats, with nearly 7,000 water landings. Along the way, I got my CFI ticket and have taught over 100 students from all over the world. One of the most memorable experiences I had is when two pilots came over from Switzerland and wanted to shoot video of their experience. We had a week of absolutely beautiful sunny weather with light winds.

On each flight, we clipped two GoPro cameras onto the plane, moving them all around to get different camera angles. I think we got about 15 hours of footage. Since I had a television production background, I directed all of our flying,

CONTINUED ON PAGE 45

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Rewarding Legendary Showmanship...

Kyle Franklin Receives 2017 Bill Barber Award For Showmanship



Kyle Franklin
Hans Li Photo



Kyle Franklin flying "Dracula," spewing its red blood smoke.
Larry Raulston Photo

by Brad Donner

In the summer of 1989, aviation publisher Dave Weiman presented the Bill Barber Award For Showmanship to Jimmy Franklin during the performers appreciation banquet at the Quad Cities International Airshow in Davenport, Iowa. Twenty-eight years later, Franklin's son, Kyle, will receive the same award during ceremonies at EAA AirVenture Oshkosh 2017.

A third-generation pilot and second-generation airshow performer, Kyle Franklin, 37, of Neosho, Missouri, was born and raised in the airshow business. The Franklin aviation legacy began with Kyle's grandfather, Zip Franklin, a World War II veteran, a rancher, and a self-taught pilot. Zip's oldest son, Jimmy Franklin, started flying on his dad's lap while he was still in diapers. Twelve years later, Jimmy snuck out and soloed himself in the family PA-14. By age 19, Jimmy was performing airshows in his stock Waco UPF-7 biplane after teaching himself aerobatics by reading Harold Krier's book "Modern Aerobatics."

Kyle Franklin grew up around airplanes and airshows. Taking his first airplane ride at just two weeks old, he quickly learned to fly, and by the time he was just 10 years old, he was a competent pilot.

At age 12, Kyle began traveling with his father to airshows every summer, where he learned how to maintain the Waco and honed his flying skills and showmanship under the watchful eye of his parents. At age 14, Kyle took to the



Kyle Franklin with his parents Audean and Jimmy Franklin in 1985.

Joseph E. Lucas Photo

outside of the now highly modified "Waco Mystery Ship" and began learning the art of wingwalking.

At age 17, and still a junior in high school, Kyle became the world's youngest professional wingwalker, and together with his father, launched the industry's only father-and-son wingwalking team. Over the next nine years, Kyle became an accomplished airshow pilot, flying the Waco Mystery Ship and performing his now famous Ben Whabnoski comedy act in the Super Cub he learned to fly in when he was 8 years old. Kyle expanded his skills and became a stuntman, performing the world's only motorcycle-to-airplane transfer with his father flying and Kyle driving the motorcycle – an act the Franklins developed in 1972.

The Franklins always considered themselves showmen first and pilots second. True to their commitment to showmanship and innovation, they launched the original "Jet Waco" act in 1999 that headlined most shows and competed with modern military jet demonstrations. As if the unprecedented airplane and its jaw dropping performance were not enough, Kyle became the world's first jet wingwalker – an act he continued to perform until the tragic loss of his father and fellow performer Bobby Younkin in 2005. Kyle was also the only other person to ever fly the original Jet Waco.

Despite the loss of both their fathers, Kyle and his new bride and business manager, Amanda Younkin Franklin, continued in the airshow business. Kyle performed his comedy act and motorcycle-to-airplane transfer with his brother-in-law, Matt Younkin, driving the motorcycle,

and Kyle flying. With Amanda's business skill and Kyle's showmanship, Franklin's Flying Circus thrived.

In 2008, Kyle and Amanda created and debuted one of the most iconic airshow acts ever – "Pirated Skies!" Amanda became the wingwalking pirate, Scandalous Scarlet, and with their costumes, their beautiful story line, and their showmanship, they thrilled crowds everywhere.

In 2013, Kyle debuted a new, one-of-a-kind biplane – "Dracula!" This airplane combined the look, style, and appeal of racing airplanes of the 1930s with 21st century aerodynamics and systems. Originally conceived by Kyle and his father 10 years earlier, Dracula was completed in late 2012 with the help of Amanda, who was tragically lost in an accident before the aircraft debuted, and Kyle's best friend Brad Donner.

Today, Kyle continues to wow and amaze crowds across

the country and throughout the world with his unique style of flying and showmanship. His biplane Dracula and the crowd favorite Super Cub comedy act continue to draw rave reviews. Always the showman and innovator, Kyle continues to refine Dracula, and there are persistent rumors of a new airplane and act coming soon!

2017 marks Kyle Franklin's 20th year as an airshow professional and his family's 50th year in the airshow entertainment industry.

For additional information, visit www.franklinairshow.com.

Follow Kyle Franklin on Facebook at the Franklin's Flying Circus page.

Airshows and organizations interested in booking Kyle Franklin for either an airshow or speaking engagement, may contact him via email at franklinairshow@aol.com, or by calling 417-389-7440. □

Short Elliott Hendrickson Celebrates 90 Years of Service

ST. PAUL, MINN. – It took only 90 years, but what started as a local, one-person operation in 1927, has grown to a nationally recognized company with over 800 employees whose work can be found in 42 states.

On May 10, 2017, SEH hosted a company-wide celebration at each of its offices nationwide for its 90 years in business.

"Our people, our team, make a difference every day in the world around us," says Sam Claassen, SEH CEO/President.

"It's because of their hard work that millions of people benefit from roads and highways that are made more safe; water now clean to drink, to swim in and to enjoy; downtowns and waterfronts that now thrive; safe bridges; businesses which prosper; and an improved quality of life."

On April 1, 2017, SEH launched a new advertising campaign that emphasizes the critical role of collaboration in "Building a Better World for All of Us". (www.sehinc.com). □

SEAPLANE RATING FROM 42

and worked it into our lessons. Then they downloaded all the footage, and took it back to Switzerland, where they masterfully edited it to music. If you want to see an absolutely stunning seaplane video, check it out on YouTube. Just search Eagle River Seaplane. It's just over 8 minutes long.

Along the way, we've been able to fly to some very fun places. Seaplane fly-ins are fun for pilots and visitors alike. You will find them all over the Midwest – just check the Seaplane Pilots Association website at www.seaplanes.org.

So if a pilot buddy challenges you with a bet some day, take him up on it. You might just have a great time!

EDITOR'S NOTE: Curt Drumm is an aviation consultant based in Wisconsin. He holds an Airline Transport Pilot Certificate, and is both a land and sea instructor. He can be reached at 920-901-2200 or cdrumm@lakeshoreaviation.com (www.lakeshoreaviation.com). □

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Sign, Sign, Everywhere A Sign

by Hal Davis
WisDOT Bureau of Aeronautics

Humans tend to be creatures of habit. And while routines and habits may be helpful in some situations, they can be downright dangerous in others. For example, ask any automobile driver and they'll tell you a stop sign requires you to bring your car to a complete stop. Yet how many drivers are in the habit of just rolling through them? While routinely rolling through a stop sign on a seemingly always empty street may not seem like a big deal, that bad habit could result in a crash at a less empty intersection. Likewise, performing tasks subconsciously out of habit can also inhibit our ability to recognize and react to unexpected changes.

In previous *Aeronautics Reports*, we've examined airport markings and how they can help pilots maintain good situational awareness. The same can be said for airport signs. While I expect the meaning of most airport signs are well known to readers of this magazine, I encourage you to use this opportunity to not only review the textbook meaning of certain airport signs, but also reflect on your own personal habits as they relate to navigating the airport environment. While there's no such thing as a "rolling stop" for airplanes, pilots are not immune to forming bad habits of their own.

Types of Signs

There are seven types of signs that can be found on an airport: mandatory instruction, boundary, location, direction, destination, information, and runway distance remaining. Many of these signs complement and even replicate airport markings.

Mandatory Instruction Signs

Mandatory instruction signs come in several forms, but they all share the same general purpose, to indicate the entrance to safety critical areas, such as a runway. They feature white text on a red background. At an airport with an operating air traffic control tower, aircraft are generally



Hal Davis

required to hold at these signs until cleared to proceed by air traffic control. At an uncontrolled airport, aircraft are expected to verify that the area they are entering is free of conflicting air traffic before proceeding beyond the sign.

It's a good habit to always look both ways before crossing any holding position sign, even if you've been cleared to do so by air traffic control.

15-33

The most common mandatory instruction sign is the runway holding position sign. Located at the intersection of a taxiway and runway or the intersection of two runways, runway holding position signs depict the designation of the intersecting runway. The runway numbers are separated by a dash, and their arrangement indicates the direction to the corresponding runway threshold. For example, a runway holding position sign that reads "18-36" would mean the threshold for runway 18 is to the left and the threshold for runway 36 is to the right. At an intersection with a runway end, only the designation for the takeoff runway is displayed on the sign. Arrows are also used to illustrate the orientation of each runway when a taxiway intersects two runways at the same location.

15-APCH

Besides intersections with runways, mandatory instruction signs are also used to indicate several other important boundaries. At some airports, a taxiway may not intersect with the runway itself, but instead intersect with a runway approach area or the runway safety area. Accordingly, it may be necessary for aircraft to hold on the taxiway as to not interfere with traffic on the nearby runway. The runway approach area holding sign indicates this location on the taxiway. The sign's inscription includes the runway designation for the approach, followed by a dash and the letters "APCH."

ILS

Similarly, some taxiways may also impact Instrument Landing System (ILS) critical areas. To protect against signal interference, these areas must be cleared of all physical obstructions (including aircraft) when in use. ILS critical area holding position signs are inscribed simply with

the letters “ILS.” In addition, runways with more advanced category II and III landing systems may have additional holding position signs installed on parallel taxiways. The inscription on a holding position sign for these types operations is the associated runway designation followed by a dash and the abbreviation “CAT II/III.”

Boundary Signs



On the backs of all holding position signs are boundary signs, which identify

the boundary for aircraft leaving a particular safety critical area. For instance, the runway safety area/runway approach boundary sign is found on the backs of runway holding position signs and runway approach area holding position signs. These signs provide pilots a visual cue they are exiting the runway safety area. This sign features a yellow background with a black inscription depicting the two solid and two dashed lines that make up the holding position marking.



Likewise, ILS critical area boundary signs can be found on the backs of ILS critical area

holding position signs, as well as CAT II/III operations holding position signs. These signs feature a yellow background with a black inscription depicting the ILS critical area marking. Aircraft must pass by these signs and associated markings completely before considered clear of the ILS critical area.

Location Signs



Location signs are used to identify the taxiway or runway on which an aircraft is located. Location signs feature a black background with a yellow border and yellow text. These signs may be installed by themselves, but are most commonly collocated with direction signs or runway holding position signs. While taxiway location signs are common, runway location signs are typically only installed where the proximity of two or more runways may cause confusion as to which runway an aircraft is on.

**Typically, letters are used to name taxiways.
However, there are three letters which are never used.
Can you name them?***

Direction Signs



Whereas location signs tell you where you are, direction signs tell you which taxiway you are crossing at a particular intersection. Located on both taxiways and runways, direction signs feature a yellow background with black text and always at least one arrow pointing in the direction of the crossing taxiway. They are normally located on the left prior

to an intersection; however, on a runway, direction signs will be located on the same side as the exit to prevent confusion.

Destination Signs



Similar in appearance to direction signs, information signs also feature a

yellow background with black text and an arrow. While direction signs are used exclusively to identify taxiways, destination signs are used to provide directional information for outbound destinations, such as runways and inbound destination, such as aprons, fuel, cargo areas, international areas, FBOs, terminals, and military areas. When two or more destinations have the same taxiing route, the destinations are separated on the sign by a dot and a single arrow is used to point in the direction of the destination. Conversely, when a destination sign contains two or more destinations with different taxi routes, each destination will be accompanied by an arrow with a vertical black message divider separating the two.

Information Signs



Some airports may be compelled to provide additional information to pilots through the use of information signs.

These signs also feature a yellow background with black text. Common examples of information displayed on these signs include VOR checkpoint information, noise abatement procedures, and radio frequencies.

Distance Remaining Signs



Finally, distance remaining signs provide pilots distance remaining information for takeoff and landing. These signs are located along one or both sides of the runway and feature a white numeral on a black background. The numeral indicates the number of thousands of feet remaining for the runway. On short, turf runways, where the opposite runway end is not visible, a single sign depicting “½” is placed midway down the runway denoting that only half of the runway remains.

Find Out More

To find out more about airport signs, check out Chapter 2 of the Federal Aviation Administration *Aeronautical Information Manual or Advisory Circular 150/5340-18F*. Stay tuned for the final chapter in our review of airport visual aids, “airport lights.”

(*Answer: To avoid any confusion, the letters “I”, “O”, “X” are never used to name a taxiway.)

New Faces At The Wisconsin Bureau of Aeronautics

We are happy to announce that there are several new faces at the Wisconsin Bureau of Aeronautics (BOA), as well as a familiar face taking on a new role. As always, feel free to give any of us a call at 608-266-3351, or even better, come visit us in person at EAA AirVenture Oshkosh 2017 in Exhibit Hangar A.

Matt Malicki

Airport Engineering Section Chief

Matt Malicki accepted the position of airport engineering section chief in March 2017, replacing Mark Arnold who retired in December after working at BOA for 32 years. As an integral member of the BOA management team, Matt's new responsibilities include providing oversight of statewide aeronautical infrastructure development projects and leading airport engineering initiatives, such as improving airport safety. Matt will also supervise and direct BOA's civil engineers and engineering specialists who provide planning and implementation of development projects for airports.

Matt originally joined the BOA in January 2006 as an airport development engineer. He has a bachelor of science degree from the University of Wisconsin – Madison, with an emphasis in transportation engineering and credits towards a master of science degree in ocean and resources engineering from the University of Hawaii. Additionally, Matt is registered as a Professional Engineer in Wisconsin.

Matt, originally from Cedarburg, Wisconsin, now calls Stoughton, Wisconsin home, and enjoys traveling, hiking and home remodeling.

To contact Matt, call (608) 267-5273 or email matthew.malicki@dot.wi.gov.

Josh Holbrook

Airport Development Engineer

Josh Holbrook joined BOA in January 2017. As an airport development engineer, Josh is responsible for managing projects at nine airports around Wisconsin. His duties include helping airports develop a realistic and achievable capital improvement plan; contracting



with consultants for planning, design and construction engineering services; conducting plan reviews; and working as a liaison between local sponsors and state and federal agencies. (For a list of the Wisconsin airports and the assigned project manager, see <http://wisconsin.gov/Pages/doing-bus/aeronautics/airports/proj-mngrs.aspx>)

Josh earned a bachelor's degree in construction engineering in 2005, and a bachelor's degree in business in 1999 from the University of Toledo. Josh worked for consultants for nearly 13 years before joining BOA. He joined BOA to be closer to family.

Josh is a registered Professional Engineer. He is originally from Youngstown, Ohio, and enjoys golfing, playing music, and fishing.

Josh can be contact by phone at (608) 267-2143 or email at joshua.holbrook@dot.wi.gov.

Levi Eastlick

Airspace Safety Program Manager

Levi Eastlick joined the BOA in March 2017. Levi serves as airspace safety program manager and pilot. His duties include issuing permits for tall towers; assisting airport owners, tall tower proponents and local government with issues regarding airspace and obstructions; working with the FAA to bring new instrument approaches to Wisconsin; and conducting aerial photography and photogrammetry flights. He also assists with flight instruction for the bureau and other state organizations, including the state highway patrol.

Levi earned a bachelor's degree in liberal studies with an emphasis in aviation management from the University of Wisconsin-Oshkosh. He also has an associate's degree in aeronautical science, which was obtained from Fox Valley Technical College. Prior to joining the WisDOT, Levi was a Part 135 charter pilot and flight instructor for West Bend Air Inc. at Fond du Lac County Airport. Levi holds a commercial pilot certificate and is a CFI/CFII/MEI.

Originally from southwestern Wisconsin, Levi enjoys spending time outdoors with his wife and three daughters. They are huge Wisconsin sports fans and love to hunt, fish and camp, as well.

For any questions regarding tall towers or airspace, please feel free to contact Levi at levi.eastlick@dot.wi.gov or (608) 267-5018.



Keeping The “O’Malley” In The Jet Room

by Dave Weiman

MADISON, WIS. – For the past two decades, the general aviation terminal restaurant at Wisconsin Aviation on Dane County Regional Airport, Madison, Wisconsin (KMSN), has been owned and managed by Pat O’Malley and his wife, Pam. Pat is a private/instrument-rated pilot and aircraft owner, and is known locally, and throughout the Midwest and nationally among transient pilots.

For years, the O’Malleys worked seven days a week, opening at 6:00 a.m. and closing at 2:00 p.m., Monday thru Saturday, and 8:00 a.m. to 2:00 p.m. on Sunday, but life is changing for them since they sold the business in February 2017. The Jet Room specializes in serving breakfast and lunch, and provides catering for corporate and charter flights.

In July 1976, Pat O’Malley opened “The O’Malley Farm Café” in nearby Waunakee, Wisconsin – a rural community where Pat grew up on a farm. After 20 years of serving Waunakee and surrounding communities, Pat sold the café in 1996 to pursue a career in real estate. Although he had what it takes to be successful in real estate – a personable guy with business savvy – his heart and expertise was in the restaurant business. So, after only a year, he and Pam opened “Pat O’Malley’s Jet Room” in the old terminal building at Wisconsin Aviation in 1997. Five years later in 2002, the old stone building was torn down to make room for the new Wisconsin Aviation general aviation terminal, which features the modern restaurant you see today with large picture windows overlooking a very active general aviation ramp.

Twenty years at the old café in Waunakee, and now 20 years at the Jet Room in Madison. When local entrepreneurs, Nic and Megan Tarczynski, 39, expressed interest in purchasing the restaurant, the O’Malleys realized that it was time to retire.

The Tarczynskis grew up in the Madison area and are 1999 University of Wisconsin graduates. Even before they were approached by a real estate broker to buy the Jet Room, they were frequent customers.

“I have always had this curiosity about aviation, and now I have the opportunity to experience it firsthand,” said Nic, who aspires to one day learn to fly and own an airplane.

“I want more people to feel this same emotional connection to aviation as I do, and make Pat O’Malley’s Jet Room restaurant their breakfast and lunch destination.”

It is important to the Tarczynskis to make their ownership of the restaurant as flawless as possible. The name of the restaurant will continue as Pat O’Malley’s Jet Room...the staff has agreed to stay onboard and are enthusiastic...and the



Megan Tarczynski, Pat O’Malley & Nic Tarczynski

menu will remain the same. The restaurant has the recipe for success, and both the Tarczynskis and the O’Malleys want to keep it that way.

O’Malley has agreed to stay on for the first six months to help with the transition, and thereafter as a consultant, but he is already gearing up to do a whole lot more flying in the years ahead.

“My job now is to do everything I can to ensure that Nic and Megan succeed,” said O’Malley. “In fact, I want to help them take the business to the next level.” Nic is already looking around the country to establish other general aviation restaurants, and he sees tremendous potential in metropolitan areas the size of Madison and larger.

“Airports are exciting places to be around,” said Nic. “They are naturally exciting, and an airport restaurant has built-in entertainment that other restaurants don’t have.” And like most general aviation terminals with corporate traffic, the Jet Room gets its share of celebrities coming through, which adds to the excitement.

“The Jet Room could not survive totally on pilots as its customer base, but it is the pilots and aircraft activity at the airport that attracts the general public to the restaurant,” said O’Malley. With between 700 and 1,000 people moving to Madison each month, they expect business to grow even more over time.

To learn more about Pat O’Malley’s Jet Room restaurant, and to check out the menu, go to www.jetroomrestaurant.com.

Group reservations and catering is available with advance notice by calling 608-268-5010. □



The State of Minnesota provides this Technical Bulletin in the interest of Aviation Safety and to Promote Aeronautical Progress in the State and Nation.

Cassandra Isackson, Director

Dan McDowell, Editor

Minnesota DOT Office of Aeronautics
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Customer Centered Culture

by Cassandra Isackson

Director, Minnesota DOT Office of Aeronautics

Are you my customer? Do you know the products MnDOT Aeronautics provides? If you fly, and/or land in Minnesota, you are using some of our products for sure. MnDOT as a whole is working “to earn trust and increase transparency through a customer-centered organization in which we engage customers, listen to understand, and balance the diverse needs of all to achieve the best possible outcomes.”



Cassandra Isackson

At Aeronautics, we’re learning the Customer Centered Culture (C3) principles and applying them to our products. C3 provides another lens with which to look for quality and process improvements. We’ve identified 3 things to work on first, and we need your helpful advice:

1. Aircraft Registration – to improve and simplify the aircraft (including drone) registration process so it is quickly and accurately completed on the first try.
2. Capital Improvement Program (CIP) – to identify the

various users of the CIP System, determine what each user needs, and make recommendations for a future CIP System to ensure appropriate and adequate aviation system funding.

3. Airport Layout Plan (ALP) Guidelines and Review – to revise ALP review guidelines, to reduce MnDOT approval time, to reduce errors on submitted ALPs, to clarify submittal process, and create accountability and consistency within the review.

Our first focus groups, held in May, gave us a good start on identifying positive outcomes for each of the work teams. The conversations were direct and helpful. We’ll be expanding our outreach and asking you questions about your needs as we visit aviation events around the state this summer. Please invite us to yours. Check <http://www.dot.state.mn.us/aero/events/flyins-and-events.html> for a list of other events around the state.

We are also getting ready to host a booth at EAA AirVenture Oshkosh 2017. Please stop by to say “Hi” in Building C at booth numbers 3170 and 3171. There will be folks to talk to from MnDOT Aeronautics and from airports around the state. Please fly safely with a goal towards zero aviation deaths in Minnesota. □

Don’t leave the ground without it!

Thinking Again About Situational Awareness Basics

After a long, cold winter, the urge to fly is nearly overwhelming. The longer days and more (*actually warm*) sunshine are exerting a strong pull on those who haven’t flown since this past fall. But before you climb into the cockpit and point the nose of your aircraft towards blue skies, you should take time to think once again about situational awareness (SA) basics.

In this article, the pilot is the one for whom this information is meant. However, SA can be applied to many other disciplines and activities. Situational awareness quite simply requires the pilot to be cognizant of what is taking place in his/her immediate vicinity inside and outside the cockpit, while having a good understanding of how his/her actions will impact the current situation and potential situations in the immediate and near future.

Noted SA researcher, Dr. Mica Endsley, defines SA as “the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the near future.”

Retired Air Force Lieutenant Colonel Tony Kern, a former B1B instructor pilot/check pilot, and author of the book “Redefining Airmanship,” published by McGraw-Hill 1997, says, “Airmanship failures cross all aviation boundaries. The evidence suggests that while some aspects of military flying may be more demanding than commercial or general aviation (GA), the types of errors remain relatively constant. Pilots suffer inadequacies in discipline and knowledge, lose situational awareness and make bad decisions.”

It is most likely safe to make the assumption that a great number of “airmanship” (lack of SA) errors occur with newer,

less experienced GA pilots. Bear in mind, however, that the same types of errors are occasionally committed by very highly skilled and highly experienced pilots. That begs the question of why aviators continue to make decisions that are dangerous and quite often life threatening?

A number of SA researchers and scientists believe there are many variables that can have a significant impact on a person's SA, thus causing a breakdown in the SA process at its most basic level. Some of these variables include distraction, channeled attention, task saturation, and complacency. Any one of these things can quickly become the weak link in a chain-of-causation. And that ultimately can – and too often will – lead to a significant failure in a pilot's SA, leading further to potential disaster.

Researchers have also noted there are three important and common facts about SA. First, there are almost always a number of clues available to the pilot or his/her crewmember to recognize the loss of SA and initiate the recovery from that loss. Second, the loss of SA may occur gradually, but it can also occur all at once. Third, a loss of SA not only significantly limits the ability of the pilot to achieve the flight goals, but also becomes the overriding factor in most accidents.

Today's pilots are not the flight control manipulators of the not-so-distant past. In fact, pilots flying with modern, full-glass cockpits are more systems managers and information processors. But it still remains the pilot's duty to fly the plane while maintaining good SA. With that in mind, the question remains, 'what can you do to reduce the chance of losing your SA?'

It seems like a no-brainer, but spending a couple hours with a flight instructor regardless of the ticket you hold, can

be extremely helpful. The instructor can spot little things you do or don't do that could perhaps lead to a loss of SA and a potentially significant problem in flight. Another thing you can do is practice, practice, practice. Practice what you have learned from experience, and from your time, with a flight instructor!

Make it a key item in your flight preparations and operations to use your "checklists" from start to finish. You may have done the walk-around a thousand times, but that one time you miss something that is broken, damaged or missing on your aircraft is the time that disaster may find you.

Always avoid complacency and distractions by following standard operating procedures. Bear in mind that although SA is complex, it is still up to you, the pilot, to fly your airplane in the safest, possible manner. It is your responsibility to improve your airmanship abilities as much as you are able to through honest desire and practiced discipline.

There are many articles and books about SA online and in bookstores. Simply go online and type in situational awareness, and you will find many.

To quickly sum up our discussion of situational awareness, it can be said that situational awareness is your accurate understanding of what is taking place with you and your aircraft in relation to the world around you, at this moment, and in the very near future. So, for your safety, as well as the safety of your passengers and people on the ground, make sure you have good SA whenever you fly, or drive.

Let's work together towards zero aviation deaths in Minnesota and across the nation by making safety, including good SA, priority one, and don't leave the ground without it.

When The Violent Winds Come

Every spring brings about changes in the landscape, the weather, and even in people. The warmth of the strong sunshine and the increased number of daylight hours are welcomed with open arms. Even the early spring flowers and plants open their buds and spread their tiny petals or leaves like unfolding arms raised toward the sky to say 'thank you.'

As the beauty of spring reveals itself and the scenery changes daily, it is easy to be drawn to the gentleness of the moments and the subtle sweet scents of the first flowers that bloom. But spring also brings the clashes of strong atmospheric fronts as they move rapidly to occupy the space of an opposing front.

Each day the sun pours more and more energy into the atmosphere, quickly warming the air and the uncovered ground. But in the early part of spring, winter hasn't yet given up its reign. Often blasts of cold air (a cold front) can move quickly from the north to ram into the growing warm fronts. When that occurs, the differing temperature and pressure gradients of the two air masses can cause violent wind patterns to occur. The violence can manifest itself as severe turbulence,

or as wind shear. It can also cause the most violent winds to quickly develop near the surface into a rapidly spinning, potentially very destructive vortex called a tornado.

Tornadoes can occur in any season. However, they are most likely to occur during the spring and summer months. Tornadoes are always a part of strong thunder cells, though not all thunderstorm cells create tornadoes. Tornadoes may be seen as the classic funnel shaped cloud that reaches the ground. While generally easy to see in the daylight hours, tornadoes may be essentially invisible after dark until they strike powerlines, for instance, and a flash of light or even a flash of lightning may for a moment reveal a tornado's presence. Even in the daylight hours, a tornado can be difficult to see.

Some tornadoes that have not yet touched the ground, might not have picked up any dust, dirt or debris and may appear white or as gray as the background. Still others can be hidden behind a deluge of rain that wraps completely around the funnel cloud, thoroughly obscuring it from view. These rain-wrapped tornadoes can and do continue moving in the direction of the parent thunderstorm and their width and speed across the land can vary greatly at any time.

CONTINUED ON PAGE 62



WATA *Difference*

WISCONSIN AVIATION TRADES ASSOCIATION

The Wag-Aero Group Named Wisconsin Aviation Business of the Year By The Wisconsin Aviation Trades Association

The Wisconsin Aviation Trades Association (WATA) has named *The Wag-Aero Group* the “Wisconsin Aviation Business of the Year” for 2017 for more than 50 years of professional service to the aviation community worldwide. The award was presented to owners, William E. Read, Chairman and Chief Executive Officer, and his wife, Mary Myers, President, at ceremonies held April 25 during the Wisconsin Aviation Conference in Pewaukee, Wisconsin.

Wag-Aero was founded by Dick and Bobbie Wagner in the basement of their home in Lyons, Wisconsin in the early 1960s. By 1965, Wag-Aero published its first catalog and continued to expand. In 1971, the business moved from the Wagners’ basement to its present location at 1216 North Road, Lyons, Wisconsin. The original warehouse and manufacturing facility has been expanded with three additions. An airstrip was built at the top of the hill for the convenience of many of their fly-in customers.

Wag-Aero sales are worldwide, serving such countries as Canada, Western Europe, South Africa, Japan and Australia.



(L/R) William E. Read and Mary Myers of The Wag-Aero Group accepted the “Wisconsin Aviation Business of the Year Award” for 2017 from Jeff Baum, President of Wisconsin Aviation, Inc., who represented the Wisconsin Aviation Trades Association (WATA), which sponsored the award. The award was presented April 25, 2017 during the Wisconsin Aviation Conference in Pewaukee, Wisconsin.

Midwest Flyer Magazine Photo by Dave Weiman

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Their catalog lists over 10,000 items and they maintain a web-store for internet orders and a digital catalog with direct links to the web-store for ordering convenience.

Wag-Aero's first kit aircraft, the "Sport Trainer," is a replica of the Piper J-3 Cub. Homebuilders can build this aircraft by ordering many required parts through Wag-Aero. Later, the "Wag-A-Bond" and the "Sportsman 2+2" were added. The Sportsman 2+2 was one of the first four-place homebuilt aircraft that could be purchased in kit form.

Aero Fabricators, originally a subsidiary of Wag-Aero, and now a separate business unit, was formed in the mid 1970s. There are three departments within Aero Fabricators: welding, sheet metal fabrication, and seat belt manufacturing. The welding department remanufactures aircraft mufflers and engine mounts to FAA standards. It also produces many new manufactured aircraft exhaust systems, as well as structural components. The sheet metal department manufactures gas tanks, leading edges and metal skins and cowlings for many different aircraft, including Wag-Aero's own kit aircraft. The seat belt division manufactures and repairs FAA approved seat belts and shoulder harnesses in many styles and colors, and has been a leader in the industry in designing and manufacturing shoulder harness installation kits. In all, Aero Fabricators produces approximately 850 various components.

In 1995, the Wagners sold The Wag-Aero Group of

companies to Bill Read and Mary Myers.

In 1997, Wag-Aero acquired the assets of Viking Aero Manufacturing, which expanded their product and manufacturing lines to include 23 different types of handheld tow bars, 17 models of hitch tow bars, five (5) new designs of windsock frames, and several models of aircraft jacks.

The Wag-Aero Group also includes "Leading Edge Air Foils" (LEAF) – one of the oldest and largest suppliers of ultralight parts and accessories.

LEAF was founded in 1975 by Bill Raisner in Peyton, Colorado, who passed away in 1999, and was sold to Bill Read in 2000 and moved to Wisconsin. LEAF continues to be an independent service centre for ROTAX engines.

In March 2005, Wag-Aero acquired the assets of Safe Air Repair, Inc., which expanded their FAA/PMA line of manufactured parts to include many PMA'd parts for the Aeronca and Taylorcraft. This includes the 7AC Champ, 11AC Chief and BC12D Taylorcraft, along with numerous additional Aeronca 7 and 8 series models.

Read and Myers attribute the success of The Wag-Aero Group to their loyal customer base, dedicated and innovative employees, complementary product line expansions, and a strong commitment to customer service.

For additional information, visit www.wagaero.com and www.leadingedgeairfoils.com, or call 1-800-558-6868.

Wisconsin Airport Managers Recognize Excellence At 62nd Annual Aviation Conference



Barry Cooper, Administrator of the FAA Great Lakes Region (center), accepts the "Distinguished Service Award" from WAMA President Kurt Stanich (left) and board member, Peter Moll.

Dave Weirman Photo

WAUKESHA, WIS. – The Wisconsin Airport Management Association (WAMA) recognized several individuals for their contributions to aviation during the 62nd Annual Wisconsin Aviation Conference, April 25, 2017, at the Country Springs Hotel & Water Park in Pewaukee, Wis.

Receiving WAMA's "Lifetime Service Award" was Eileen Duffeck of J. Douglas Bake Memorial Airport, Oconto, Wis. During Duffeck's tenure, the airport made numerous improvements thanks to her leadership, can-do spirit and good working relationship with airport commission



Eileen Duffeck of J. Douglas Bake Memorial Airport, Oconto, Wis., received WAMA's "Lifetime Service Award."

members, consultants, the Wisconsin Department of Transportation Bureau of Aeronautics, and the Federal Aviation Administration.

In October 2016, on behalf of the airport and City of Oconto, Duffeck accepted a donation of 140 acres of land to the west of the airport for the future construction of a crosswind runway. Her final project, which she was instrumental in obtaining funding and

approval for, will be the reconstruction of Runway 11/29, which is currently underway. Airport tenants and transient pilots have appreciated Duffeck's knowledge and camaraderie as a pilot, and her expertise and devotion to her career as an airport manager.

Receiving WAMA's "Distinguished Service Award" was Barry Cooper, Administrator of the FAA Great Lakes Region, who was instrumental in getting the attention of national leaders in filling the radar gap in north central Wisconsin.

CONTINUED ON PAGE 62



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Minnesota High School Generates Next Generation of Aerospace Employees



Tech High School Aerospace students at the National Guard Hangar in St. Cloud, Minnesota.

The Aerospace Engineering Program at Tech High School in St. Cloud, Minnesota, is a unique program which goes beyond textbooks and classrooms to offer students out of this world experiences. The program was developed by former National Aeronautics and Space Administration (NASA) employee, Dr. Matthew Keil. Dr. Keil is a technology education teacher who left the teaching profession in 2004 to work for NASA. He spent most of his 10-year NASA career training astronauts and developing business partnerships for on-orbit education flight projects at NASA Johnson Space Center in Houston, Texas. Dr. Keil worked closely between the International Space Station, Space Shuttle, and business partners, such as Disney, Sesame Street, LEGO, Google, National Football League, National Hockey League, and NASCAR to develop Emmy Award-winning on-orbit education projects. Dr. Keil also spent time on the Zero-G microgravity aircraft testing experiments before they were sent to space. Dr. Keil and his wife, Alissa, who also worked at NASA, along with their three children, left Texas to return to Alissa's hometown of Kimball, Minnesota, and return to the teaching profession.

Dr. Keil has been teaching Aerospace Engineering at Tech High School for 3 years. The program involves year-long and trimester-long classes in areas of aeronautics and space

technology. Students are involved in inquiry-based learning and project-based curriculum. They complete units on evolution of flight, physics of flight, flight planning/navigation, materials/structures, propulsion, flight physiology, space travel, orbital mechanics, remote systems, and careers. Funding for the program was received through grants, donations, and scholarships from NASA, Oklahoma State University, NatSciTeachAssoc (NSTA), Shell, ISD 742 Local Education and Activities Foundation (LEAF), and Northland Aerospace. Part of this funding helped students design and build the Martian Simulation Lab, which is used for robotics projects.

To enhance student experience, Dr. Keil has partnered with numerous organizations to provide career pathways. Students have met and learned about programs offered from Northland Aerospace, Lake Superior College, the U.S. Navy, Army, and National Guard. Students have met with pilots, technicians, and flight controllers while touring St. Cloud Regional Airport and the National Guard hangar, including Chinook and Black Hawk helicopters. Students have also received resources on drone technology and Federal Aviation Regulations via Northland Aerospace. Each year, students travel to NASA Johnson Space Center in Houston, Texas, to tour various aircraft and spacecraft, and meet with astronauts, engineers, pilots, and technicians. These beyond-textbook

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Tech High School Aerospace students at Lone Star Flight Museum in Galveston, Texas.



Tech High School Aerospace students at NASA Johnson Space Center with the 747 Shuttle Carrier and Space Shuttle.

experiences help students understand existing pathways to a career in aerospace and aid in development of next generation pilots, technicians, and engineers.

Three current aerospace engineering students at Tech HS have accomplished their solo flight and in process of completing their private pilot certificates. Graduates of the aerospace engineering program are currently studying fields related to aerospace at Lake Superior College, the University of Minnesota, National Guard, U.S. Navy, and U.S. Army. Even though the program is in its infancy, the results are impressive.

For additional information, call Dr. Matthew Keil at 320-252-2231 or via email at Matthew.Keil@isd742.org.



This material is based in part upon work supported by the National Science Foundation (DUE 1501629). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.





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CALENDAR

Include the **DATE, TIMES, LOCATION (CITY, STATE & AIRPORT NAME & I.D.)**, and **CONTACT PERSON'S TELEPHONE NUMBER**, as well as that person's address & email address for reference. First 15 words **FREE**. \$.75 for each additional word.

Go to "Calendar" at www.MidwestFlyer.com and post your aviation event.

You can also email: info@midwestflyer.com – Or – Mail To: Midwest Flyer Magazine, 6031 Lawry Court, Oregon, WI 53575

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.

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* INDICATES ANY NEW OR UPDATED CALENDAR LISTINGS SINCE THE PREVIOUS ISSUE.

JUNE 2017

- 3 ST. CLOUD (STC), MINN. - Bean & Brat Fly-In at Leaders 10am-2pm.
- 3-4 DULUTH, MINN. - Blue Angels Performing.
- 4 WILD ROSE (W23), Wis. - The Idlewild Airport will be serving a Pancake Breakfast with Sausage and Eggs from 7:30-11am, and at 11:30am-3pm a Pig Roast Dinner featuring pork, beef, potato salad, beans and more. *This is a rain or shine event.* 715-513-0911.
- 4 AUDUBON (ADU), IOWA - Breakfast 6:30-10:30am.
- 4 DEKALB, (DKB), ILL. - Pancake Breakfast.
- 6* ATCHISON (K59), KAN. - Military Appreciation Day at the Amelia Earhart Airport. To honor our Military hero's and their families, the airport will be hosting discounted rides for veterans. Vintage military aircraft, prestigious speakers, food, music, educational opportunities, and motorcycle competitions are a few of the exciting activities for the day.
- 9-11 GAYLORD, MICH. - Otsego Lake Splash-In at the Otsego Lake County Park. 989-731-6448. www.otsegolakesplash-in.com
- 10 MILWAUKEE (KMWC), Wis. - Join us for pancakes, sausage, bacon, coffee and camaraderie at the monthly fly-in breakfast at Milwaukee Timmerman Airport (KMWC), from 8:00-11:00am. Breakfast is free for the PIC with a top-off or 30 gallon fuel purchase. We'll enjoy breakfast in the historic former "Skyroom" restaurant area overlooking the ramp. See you there!
- 10-11 SCOTT AFB, ILL. - Airpower Over The Midwest Air Show. Blue Angels Performing.
- 10-11 ROCKFORD, ILL. - Thunderbirds Performing.
- 11* MONTEVIDEO (MVE), MINN. - Pancake Breakfast 8am-1pm.
- 11* RUSH CITY (ROS), MINN. - Pancake, Eggs, Sausage Breakfast. Vendors, classic cars, antiques tractors, kids games, and of course, all the historic warbirds. There is afternoon food available also.
- 11* BUFFALO (KCFE), MINN. - Pancakes served 7:30 am - Noon. Car Show 10:00 am - 2:00 pm. Airshow scheduled for Noon.
- 17* ATCHISON (K59), KAN. - Forest of Friendship Celebration & Hangar Dance at Amelia Earhart Airport. The airport will be offering perks and discounts to all who fly-in for the event. Join us to honor the dedication of our hangar to Frank Spotz.
- 17* MOOSE LAKE (MZH), MINN. - Pancake Breakfast 7:30-11am.
- 17-18 YOUNGSTOWN AIR RESERVE BASE, OHIO - Thunderbirds Performing.
- 18 WAUTOMA, Wis. - Chicken Fly-In 10am-3pm.
- 18 MAQUOKETA (OQW), IOWA - Breakfast 7am-Noon.
- 24-25 DAYTONA, OHIO - Thunderbirds Performing.
- 25 ST. CLOUD (KSTC), MINN. - Pancake & Sausage Breakfast 8am-1pm in Hangar 2. On display classic & collector car show plus aircraft and airport equipment.
- 25* RIO (K94C), Wis. - Eggs, Sausage, & Pancakes Breakfast 7am-Noon at Gilbert Field (94C), just 20 miles NNE of Madison, Wis. Contact us at Rioaeroclub@gmail.com
- 25* REDWOOD FALLS, MINN. - Rotary Breakfast 8am-Noon. Free breakfast to all pilots. www.redwoodfallsrotaryclub.com
- 25* WALWORTH (7V3), Wis. - Big Foot Airfield Pancake, Eggs & Sausage Breakfast 7am-1pm.

25* STRUM (3WN9), Wis. - Pancake Breakfast @ Brion Memorial Field 7:30-Noon. 2100 ft turf runway - good shape. CTAF 122.9.

26-28 CLINTON (KCWI), IOWA - Cessna 150 - 152 Fly-In. www.cessna150152flyin.org

30 PHILLIPS (KPBH), Wis. - **Airshow - Friday, June 30 7pm & Saturday, July 1st 11am. Fly-In / Float-In Breakfast & Lunch at Harbor View Pub & Eatery on Long Lake, West of Rwy 6/24 at Price County Airport.**

JULY 2017

- 1 PHILLIPS (KPBH), Wis. - **Airshow - Friday, June 30 7pm & Saturday, July 1st 11am. Fly-In / Float-In Breakfast & Lunch at Harbor View Pub & Eatery on Long Lake, West of Rwy 6/24 at Price County Airport.**
- 1-2 TRAVERSE CITY, MICH. - Thunderbirds Performing.
- 8 MILWAUKEE (KMWC), Wis. - Join us for pancakes, sausage, bacon, coffee and camaraderie at the monthly fly-in breakfast at Milwaukee Timmerman Airport (KMWC), from 8:00-11:00am. Breakfast is free for the PIC with a top-off or 30 gallon fuel purchase. We'll enjoy breakfast in the historic former "Skyroom" restaurant area overlooking the ramp. See you there!
- 8* DETROIT LAKES (KDTL), MINN. - **EAA Chapter 1498 Pancake Breakfast 8am-Noon. Static display regional airplanes and classic cars. This is part of The Water Carnival in Detroit Lakes. Many fun things to see and do! The Wething Detroit Lakes Regional Airport is west of town on Highway 10. 701-640-8645.**
- 8-9 GARY, IND. - Thunderbirds Performing.
- 8-9* ISLE (MY72), MINN. - Isle Days Flight Breakfast Sunday 7-11am, Saturday bonfire-Campout.
- 9 FLANDREAU (4P3), SD - Breakfast 8am-Noon.
- 9 LAKEVILLE (LVN), MINN. - **Fly-In Breakfast sponsored by the Lakeville Lions. 8am-Noon. PIC's eat free. Warbirds including B-25 Bomber, rides available. Contact Gary Stinar 612-280-6614 or GS1537943@integra.net**
- 9 MIDDLETON (C29), Wis. - Pancake Breakfast 7:30am-Noon. 608-335-3322.
- 15 WASHINGTON ISLAND (2P2), Wis. - **Washington Island Fish Boil Fly-In 2017 11am-1pm. Fly-In for the day or camp beneath your wings. 920-535-0600 / 920-847-2448. www.Washingtonisland.wi.gov www.VisitWashingtonIsland.com**
- 15* ATCHISON (K59), KAN. - Pancake Breakfast, Bi-Plane flights, outdoor movies, aircraft fly-in and competitions at the Amelia Earhart Airport are just a few highlights for this fun-filled weekend!
- 15* MIDDLETON, Wis. - The Capital Flight from Middleton Morey Airport (Wisconsin) will be taking a bus to the Milwaukee Air & Water Show. For info matt@capital-flight.com
- 15-16 MILWAUKEE, Wis. - Milwaukee Air & Water Show. Blue Angels Performing.
- 15-16 EDEN PRAIRIE, MINN. - Wings of the North Air Expo at Flying Cloud Airport.
- 16 FOREST CITY (KFXV), IOWA - Breakfast - omelets, muffins, juice & coffee 7-11am. Contact Info #641-581-2880.
- 20-23 BRODHEAD, Wis. - Hatz/Pietenpol Fly-In.
- 22 MADISON (MSN), Wis. - **1940's style hangar dance to benefit Badger Honor Flight 6-10:30pm. Vintage wear encouraged.**

Costume/dance contest with prizes. Doors open at 6:00 pm. Dance lessons offered at 6:30 pm by Social Life Dance Center. Big-band music by Ladies Must Swing jazz orchestra starts at 7:00 pm. Cost: \$20 at door; two patrons for \$35. For more info: June Dalton at 608-698-8944 or ladiesmustswing@yahoo.com.

- 22* **ROCHELLE (KRPJ), ILL.** - PreOsh Wingfest 8am-8pm. Food & beverages. BRS Demonstration. Light Sport Trike Intro Flights. Going to OSH? Lowest self-serve fuel prices in region.
- 23 **WAUTOMA, Wis.** - Pancake Breakfast 7am.
- 23 **SHEBOYGAN (KSBM), Wis.** - Warbird Air Show at Aviation Heritage Center of Wisconsin 3pm. AHCW.ORG
- 24-30 **OSHKOSH, Wis.** - **EAA AirVenture Oshkosh 2017. Blue Angels (29-30) www.eaa.org/en/airventure**
- 26-28 **CLINTON, Iowa** - Cessna 150-152 Fly-In. www.cessna150152flyin.org/
- 30* **BACKUS (7Y3), MINN.** - Pancake, Sausage, Juice, Coffee, Milk Breakfast benefits First Responders & Fire Department.

AUGUST 2017

- 3-5 **GRAND FORKS, N.D.** - 2017 Great Lakes Chapter American Association of Airport Executives Annual Conference. For those who manage airports or work with or for airports of all sizes. An exchange of ideas, training, industry updates and working toward solutions to these issues. More info at www.glcaaae.org.
- 6 **LONGVILLE (KXVG), MINN.** - Fly-in breakfast! Granddaddy of them all! Marshals, courtesy car available, courtesy golf carts for arrivals. BIG grills, no waiting, and all under cover. 8am - noon for our 14th event. Over 1100 served the last two years!!!
- 6 **MONTICELLO (KMWO), Iowa** - Breakfast 7am-12:30pm.
- 6* **ATCHISON (K59), KAN.** - RC Fly Jam at the Amelia Earhart Airport. Rock out with the remote controlled aircraft barnstormers and learn about the basics of flying at their first Jam session at the airport. Kites, gliders, and non-powered aircraft will be available to fly and discover.
- 7-12 **MIMINISKA LODGE, ONTARIO CANADA - Canadian Fishing Trip. Join pilots flying to Canada either pick Aug. 7-10 or Aug. 7-12 stay. For reservations 1-888-465-3474. For more information email info@midwestflyer.com.**
- 12* **RICE LAKE (KRPD), Wis.** - Pancake Breakfast & Lunch Food Trucks 7am-2pm. Parachutes; RC Flying; Helicopter rides; Car Displays. Info: mike@ricelakeair.com
- 13 **LINO LAKES (8Y0), MINN.** - Annual Pig Roast at Surfside Seaplane Base. www.mnseaplanes.com
- 13* **WALKER (Y-49), MINN.** - Scratch Buttermilk Pancake, Sausage, Coffee, Juice & Milk Breakfast.
- 18-19 **BEMIDJI, MINN.** - Seaplane / Land Plane Fly-In at Moberg Airbase. Overnight camping on the 18th. www.1397.eaachapter.org
- 19 **GUTTENBERG (IA23), Iowa** - Abel Island Fly-In Float-In & BBQ Noon-3pm. 2,600 ft turf strip/Mississippi River for seaplanes. 319-480-0913 www.abelisland.com
- 19* **MASON (TEW), Mich.** - Mason Aviation Day at Mason Jewett Airport. Pancake, Eggs, Sausage 7:30-11am. Grilled Steak Lunch Noon-2pm. Sandwich will be available.
- 19-20 **CHICAGO, ILL.** - City of Chicago Air & Water Show. Blue Angels Performing.

- 19-20 **SELFRIDGE AIR NATIONAL GUARD BASE, MICH.** - Thunderbirds Performing.
- 20* **BOYCEVILLE (3T3), Wis.** - Pancake Breakfast. Camping available night before.
- 21 **PERRYVILLE (KO2), Mo.** - Great American Eclipse Fly-In. 573-517-2069
- 26-27 **OTTUMWA, Iowa** - Fly Iowa 2017 6am-6pm. www.flyiowa.org
- 27 **FREMONT (FET), NEB.** - Breakfast 7am-1pm.
- 28-30 **KANSAS CITY, Mo.** - 4 States Airport Conference 2017 (Missouri, Nebraska, Kansas & Iowa) at the Muehlebach Tower, Marriott Downtown www.4statesairportconference.com

SEPTEMBER 2017

- 2* **GLENCOE (KGYL), MINN.** - Sweet Corn & Bratwurst Fly-In 10am-2pm. 320-238-2376 or 320-583-8367. www.eaaul92.weebly.com
- 2-3 **YPSILANTI, MICH.** - Blue Angels Performing.
- 2-4 **CLEVELAND, OHIO** - Thunderbirds Performing.
- 8-9 **NORMAN, OKLA - AOPA Fly-In at the University of Oklahoma Westheimer Airport**
www.aopa.org/community/events/aopa-fly-ins/2017-aopa-fly-ins
- 9 **SUPERIOR (SUW), Wis.** - Young Eagles & Pancake Breakfast at EAA 272s hangar 8am. Eagle Flight start at 9:30am-Noon.
- 9 **HINCKLEY (KOC2), ILL.** - Pancake Breakfast.
- 9 **MILWAUKEE (KMWC), Wis.** - Join us for pancakes, sausage, bacon, coffee and camaraderie at the monthly fly-in breakfast at Milwaukee Timmerman Airport (KMWC), from 8:00-11:00am. Breakfast is free for the PIC with a top-off or 30 gallon fuel purchase. We'll enjoy breakfast in the historic former "Skyroom" restaurant area overlooking the ramp. See you there!
- 9 **OSCEOLA (KOE0), Wis.** - **Pancake Breakfast 8-11am & Car Show 9am-1pm Free Admission at L O Simenstad Municipal Airport.**
www.WheelsWings.com Info@MyOsceolaChamber.org
- 9-10 **MAPLE LAKE, MINN.** - Pork Chop Fly-In Dinner & Campout. www.878.eaachapter.org
- 10 **FREEMONT, ILL.** - Planes, Trains & Automobiles Event with a Pancakes with Blueberry Sauce, Sausage, Eggs, Milk, OJ & Coffee. 7am-1pm at the Albertus Airport. Call Angie 815-232-1078.
- 11-15 **ESCANABA, MICH.** - 2017 Annual MAAE Fall Conference. For Airport Managers, Federal Aviation Administration and State Office of Aeronautics representatives, airport engineers, consultants and airport equipment and service providers to meet, exchange ideas and discuss problems and solutions facing Michigan airports.
- 16 **MARION, OHIO** - Wings & Wheels Fly-In & Cruise-In at the Marion Municipal Airport.
- 16 **MARSHALLTOWN (MIW), Iowa** - Breakfast 7-11am.
- 16 **COUNCIL BLUFFS (CBF), Iowa** - Breakfast 8-11am.
- 23 **ST. CLOUD (STC), MINN.** - Antique Fly-In & Antique Car Show.
- 24* **ATCHISON (K59), KAN.** - International Girls in Aviation Day and Annual Vintage Fly In at the Amelia Earhart Airport. The 99's and Woman in Aviation will be in town to promote women in aviation in conjunction with our annual vintage fly-in.
- 24* **JOLIET (KJOT), ILL.** - Pancake Breakfast 8-11am. Lunch 11am-3pm. Nominal fee - Warbird & Static display, kid activities, car show.

**FOR MORE LISTINGS, INFORMATION & UPDATES
GO TO WWW.MIDWESTFLYER.COM (CALENDAR OF EVENTS)**

PERSONNEL WANTED: We need a spark plug and some motivated volunteers to populate the "Training Command" HQ and grounds co-located with the "Warbirds Adventure" attraction. This area is packed with cool aircraft that played vital roles in training our aviators in the skills of waging aerial warfare. The display aircraft change out daily and the entire area is buzzing with traffic from the Tram. We need roving, docent-type people who can tell a story about these aircraft and create even more value for our guests to Warbirds. This is a great opportunity with a built-in throng of interested visitors to ply your skills as an aviation storyteller, educator, inspirer, facilitator, and more, and for absolutely no compensation. After all, this is Oshkosh! Actually, this type of volunteering is some of the most personally rewarding activity you can perform. Take your participation at AirVenture 2017 to a new level. Contact Vic Krause at 630-440-2018 or vakrause@me.com. Thank you!

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HANGARS SELL @ ONLINE BIDDING ONLY SALE - Watertown Municipal Airport (RYV) 1745, 1747, 1749 River Drive, Watertown, WI. Details, photos, bidding requirements, registration at www.jonesauctionservice.com. Contact **Stan Jones**, WRA #993, 920-261-6820 or email us at info@jonesauctionservice.com

1979 CESSNA 421C, 4288/109/474, G430W, spoilers, 234 Gal, excellent P&I, very nice! \$325K. 1976 Aerostar Superstar 700, 5200/900/900, G430W, EX500, Machen upgrades: \$130K. 2005 Maule 180, 1600TTSNEW, 1 owner: \$89K. 2005 Cessna Turbo Skylane C182T, 1400 SNEW, G1000: \$227.9K. **Gavin Leake**, Spring City Aviation, Inc. 218-280-2615 www.springcityaviation.com

T-HANGAR RENTALS – La Crosse Regional Airport (LSE), La Crosse, Wisconsin. To check on availability, go to <http://www.lseairport.com/hangar-rentals.php>. For additional information, including rates, call the airport manager's office at 608-789-7464 or email gillettj@lseairport.com

WANTED – Aircraft paint shop or other aviation business seeking a location in east central MN. New beautiful hangar, public-use airport, asphalt ramp/runway. Call **Brian** at Eagle Air at 320-384-6667.

HANGAR SPACE – Hartford, WI (KHXF). Space available in cold storage community hangar. \$175/mo. for Cub-sized aircraft: 608-235-9696.

RESTAURANT SPACE AVAILABLE (3,695 sq. ft.) at Southern Wisconsin Regional Airport (KJVL) in our newly remodeled terminal building in Janesville, Wisconsin. This airport is known for being an airfield with a restaurant for over 50 years. The space offers panoramic views of the three runways and is conveniently located between Janesville and Madison to the north, and Beloit and Rockford, Illinois to the south. For additional information contact **Ron Burdick** at 608-757-5768.

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1975 Cessna Citation 500 – N501GB \$449,000
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1979 Piper Navajo C/R – N56ND \$279,000/Trade
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VIOLENT WINDS FROM PAGE 51

Tornadoes have been recorded in every state in the continental United States and also in southern Alaska. Some record sized tornadoes have been shown to be in excess of one mile wide! They can stay on the ground for many miles causing monumental devastation to populated areas in just seconds. The strongest tornadoes can have circulating winds of up to 300 mph, though the most common have winds that vary from 90 to 150 mph.

It is important for everyone to remember that tornadoes can develop very quickly, with little or no warning. Stay weather alert for danger signs including dark, often greenish sky; frequent lightning; large hail; a large, dark, low-lying cloud (particularly if rotating); and a loud roar, similar to a fast-moving freight train.

Be sure you know where you would go to have the highest available level of protection from a tornado, for every place you spend a reasonable amount of time, such as home,

work, school, or a place of worship. If and when you see approaching storms or any of the danger signs, be prepared to take shelter immediately because you never really know when the violent winds might come.

More information is available in two free FEMA publications:

Taking Shelter from the Storm: Building a Safe Room for Your Home or Small Business (FEMA P-320, Third Edition, August 2008): www.fema.gov/media-library/assets/documents/2009?id=1536

Design and Construction Guidance for Community Safe Rooms (FEMA P-361, Second Edition, August 2008): www.fema.gov/media-library/assets/documents/3140?id=1657

A copy of the *ICC/National Storm Shelter Association (NSSA) Standard for the Design and Construction of Storm Shelters* can be purchased and downloaded from this website: <http://shop.iccsafe.org/icc-500-2008-icc-nssa-standard-for-the-design-and-construction-of-storm-shelters-2.html>. □

WAMA FROM PAGE 53

Though a solution is still being sought, Cooper's support is indicative of his support for the Wisconsin aviation community, airport managers, aviation associations, pilots and the Wisconsin Bureau of Aeronautics.

Lt. Col. Christopher Hansen of the Wisconsin Air National Guard at Volk Field, Camp Douglas, Wis., was named "Person of the Year" for overseeing the airspace modernization effort pursued by the Air National Guard in close collaboration with the Federal Aviation Administration. The changes made added significant flexibility for military training while improving the safety and accessibility to the airspace by other users. The process took 8 years to finally get charted and is a testament to the collaborative efforts by the local flying community supported by WAMA, the FAA and the Wisconsin Air National Guard. Hansen is currently the Director of Operations for the Volk Field Combat Readiness Training Center in Camp Douglas, Wisconsin. He holds a Bachelor of Science Degree in Mechanical Engineering from Southern Illinois University, a Master of Science Degree in Business, and flew four deployments in the Middle East in the F16 Falcon.

John Schoenknecht of "The Freeman" newspaper in Waukesha, Wis., received the "Blue Light Award" for excellence in journalism. After retiring in 2007, Schoenknecht began writing a popular history column for the newspaper, which highlighted aviation in Waukesha County in a 10-part series. Schoenknecht attended the University of Wisconsin in Oshkosh, and earned his Master's Degree from Carroll



Lt. Col. Christopher Hansen of the Wisconsin Air National Guard at Volk Field, Camp Douglas, Wis. (center), was named WAMA's "Person of the Year." *Dave Weiman Photo*



John Schoenknecht of "The Freeman" newspaper in Waukesha, Wis. (center), received the "Blue Light Award" for excellence in journalism. *Dave Weiman Photo*

University in 1992.

John Behrendt, the operations and maintenance supervisor at Austin Straubel International Airport in Green Bay, Wisconsin, received the Professional Development Scholarship to attend a week-long Accreditation and Certification Academy with the American Association of Airport Executives (AAAE).

Receiving WAMA's Academic Scholarships were Jacob Berg of Coon Valley, Wis., who will be attending Minnesota State University Mankato majoring in Aviation Professional Flight; Jason Shelbourn of Whitewater, Wis., who is attending Kent State University, pursuing a degree in Aeronautics; and Douglas Dorn of Sun Prairie, Wis., who is attending the University of North Dakota in Grand Forks, majoring in Airport Management.

The 63rd Annual Wisconsin Aviation Conference will be held May 7-9, 2018 in Wisconsin Dells, Wis. For information, email director@wiama.org. □



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