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AOPA Takes Issue with Trump's ATC Plan

On June 5 President Donald Trump characterized U.S. air traffic control as being "an ancient, broken, horrible system that doesn't work" during his remarks calling for privatization.

These comments were surprising given the fact that the American system handles orders of magnitude more traffic than any other in the world at efficiency and safety levels and costs per operation that are second to none.

While AOPA is open to proposals aimed at making the air traffic control system more efficient and delivering technology in a timely and cost-effective manner, we have consistently said we will not support policies that impose user fees on general aviation. Additionally, we are also concerned about the impact of these proposed reforms on general aviation based on what we have seen in other countries. As a 2016 study by Delta Airlines said, "nations that have privatized ATC have seen operational costs increase at a much higher rate than has been seen in the US under the FAA."

We will continue to work with the administration and members of Congress including the General Aviation Caucus to protect the freedom to fly and ensure that safety, access, and costs are protected and addressed.

Keep checking AOPA.org for the latest.

Mark R. Baker
President & CEO, AOPA

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

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ON THE COVER: A 2015 Bushcat light sport aircraft, powered by a Rotax 912ULS engine. The aircraft is owned by Skyreach USA LLC of Camano Island, Washington. Photo taken at EAA AirVenture Oshkosh 2016. *Chris Bildilli Photo*

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Privatization Poses Real Threat To GA

by Dave Weiman

Aviation-wise, we believe President Donald Trump and some members of Congress have been misled by proponents of privatizing the air traffic control (ATC) system in supporting that proposal without first consulting with general aviation organizations which oppose privatization. It appears that President Trump is under the impression that we cannot modernize the ATC system unless it is privatized, and ignores the progress being made, and the sacrifices aircraft owners are making to meet the Federal Aviation Administration's 2020 ADS-B out deadline.

At press time, general aviation organizations were rallying their members to contact their elected officials in Washington to urge them to oppose privatization legislation. Privatization would take the control of the air traffic control system away from Congress and put it in the hands of the airlines, shift costs to general aviation, and reduce support and service to rural airports. *See page 25 for additional information.*

On another note, I want to encourage airports and pilot groups hosting fly-ins in 2018 to get us your dates earlier than many of you have in the past. The earlier you get us your fly-in dates, the more we can publicize your event. It is best to get your fly-in dates to us by January 1, or at least 90 days prior to the date of the event, via email to **info@midwestflyer.com**, or by using our website Calendar listing service at **www.midwestflyer.com**.

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Ask Pete!

by Pete Schoeninger


Pete Schoeninger

Q: Do pitch changes occur with power changes in an airplane with the engine mounted above the cabin like a Lake Amphibian?

A: There are significant pitch changes with large power changes. But in your checkout, you should learn how to handle these with trim. Lakes have large trim surfaces, and when trim tabs are properly positioned, pitch is easily managed.

Q: I am fascinated by the good looks of a new fixed pitch wooden prop a buddy had installed on his Aeronca Champ. What are the pros and cons of a wood prop versus a metal one?

A: Wooden fixed pitch props are 10-15 pounds lighter, look better, often cost less, and spool up quicker (because they are lighter) than metal props. They should never be stored outside, their prop bolts should be re-torqued a couple of times a year, and they will deteriorate faster than a metal prop. In my experience, performance suffers a little because the prop is thicker toward the tips and thus not quite as efficient as a metal one.

It is important to note that there are a very limited number of different props that can be legally installed on each airframe/engine combination. Your mechanic can check for applicability. There are resonances and harmonics issues between the prop and crankshaft which can cause catastrophic failures if the wrong prop (wood or metal) is installed on an airplane.

Q: Someone told me Cessna 140 and 170 airplanes have landing gears that are nicknamed "Leaping Lizzies." Why would that be?

A: Their landing gears are well designed, tough, and "springy." If you happen to screw up and get one bouncing (easily done – I know) during a landing attempt, especially a wheel landing attempt, it is often best to go around and try again.

Q: My local FBO has a fairly active rental and flight school business. They often run the engines in their C172s to 2500 hours or so with no problem according to their shop foreman. But that same guy told me my engine (very similar 180 hp Lycoming) with only 1500 hours is due for overhaul. Is he a crook, or looking out for my welfare?

A: I suspect the latter. In busy flight school situations, airplanes fly several hundred hours a year versus perhaps 50 – 100 hours a year for privately owned airplanes. That means the flight school engine parts are pretty well covered with oil on start up, and yours are not after sitting several weeks between starts. Thus, your engine may well have more wear in less hours because of lack of lubrication on startup than more frequently flown engines. Remember that both Lycoming and Continental recommend engine overhaul at no longer than 12-year intervals, and also have hourly recommendations, usually 1500 – 2000 depending on model.

Q: I am new to aviation and recently bought a used Piper Warrior and learned to fly in it. I am happy with the airplane, but very frustrated by "The System." I am fairly handy and have modified my cars and motorcycle engines with good results. But the local A&P mechanic at our field says there is almost nothing I can do legally to modify my engine. A friend (not a mechanic, but a pilot) suggested I change the registration of the airplane from Standard to Experimental so I could "play" with it more. Is that possible?

A: You'll have to go through the local FAA maintenance people to change registration status. Their answer is going to be emphatically NO. The FAA has a very dim view of this, otherwise you would see it done frequently for the reasons you state. If you have time, I think it would be a great (and free) education to call your nearest FAA Flight Standards District Office (FSDO) and ask for an appointment with one of the maintenance inspectors. It would be a good eye-opening education for you to sit down with someone for 20-30 minutes. I have found most inspectors are congenial and happy to help.

Q: I have heard that landing on a runway with a significant rise, or drop, can be difficult judging height in the landing flare. Why?

A: When you land your airplane on a reasonably level runway, you are used to a certain perspective looking perhaps 200 feet ahead of the airplane when your wheels touch the runway. If you are landing on a runway that has a rise or drop of say 5 feet per 1,000 feet of length, that is one foot per 200 feet. So, the height above the runway of your wheels is going to be either one foot higher or lower than you are used to. Thus, landing uphill, your wheels are going to be a foot off the ground when you think they should be touching the ground, and your wheels will hit the

ground before you expect if you are landing downwind. So not a crash, but a bit of thump on arrival.

Q: In the last issue of *Midwest Flyer Magazine,* you discussed the Cessna 177 Cardinal, which was supposed to replace the Cessna 172 Skyhawk, but did not. What do you know/think of the Cessna 172 Hawk XP and C172 RG Cutlass, each produced for a few years around 1980, but were not production survivors?

A: They are both good airplanes… I've flown and sold many of each model. The C172RG was Cessna's answer to the Piper Arrow, an airplane that met FAA training requirements for a complex trainer. The Cutlass has 20 more horsepower than the C172 of the same vintage, but is heavier, so its takeoff and climb difference seems to me no better than straight C172s. The Cutlass is about 12 mph faster because of its retractable gear, and has large fuel tanks, but with full tanks, the cabin load is quite limited. With a lighter cabin load and economical power settings, the Cutlass has a range of almost 800 miles. In my opinion, the Cutlass is a great value if you can find a nice one with good maintenance history. As airplanes go, they operate fairly economically, as well.

The Hawk XP is one of my favorite airplanes. It has 195 horsepower, and can be easily converted to 210 horsepower. Takeoff and climb performance is impressive, but cruise is – like the Cutlass – only about 10 mph faster than a straight C172. Also, with higher engine overhaul costs and shorter engine life than straight C172s, operating costs for the Hawk XP is significantly more than the C172. Hawk XPs are sometimes found on floats because of their added power.

As single-engine piston sales dropped rapidly during the early 1980s, Cessna made the decision to stick with only one entry level four-seat airplane, the C172, which is still in production to this day. In production since 1956 (excluding a 10-year shutdown of all single-engine airplanes by Cessna), the C172 has always been a sales leader. Cessna got it right when they designed the airplane, and over the years have tweaked it only a little. It sort of reminds me of the Remington 870 shotgun, or the John Deere 4020 tractor, or Ford Mustang. When you have a winner, you keep building it.

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. ❑

Comparison of Part 91 versus Part 135, Ownership & Operation of Aircraft

by Greg Reigel, AAL

Greg Reigel

Owners of business aircraft frequently face the question of whether their aircraft should be operated under 14 C.F.R. Part 91 ("Part 91") or Part 135 ("Part 135"). And it isn't uncommon for owners to simplistically choose Part 91 because they have been led to believe that Part 135 is far too expensive and restrictive. Unfortunately, that answer isn't necessarily the correct answer for all circumstances. The question is more complicated and requires a thorough analysis of the facts.

Generally speaking, it is true that aircraft may be operated under Part 91 with fewer restrictions and regulatory requirements than when operating under Part 135. However, from a risk management perspective, Part 135 exposes the charter customer to the least amount of regulatory and legal liability risk. As a result, it is necessary to understand the key distinctions between operations under Parts 91 and 135 in order to determine how they apply to a particular situation.

Let's look at some of the differences between Part 91 and 135:

RISK MANAGEMENT

The operator of an aircraft has primary legal liability for injury to persons or property arising from an aircraft accident or incident regardless of whether the operation is conducted under Part 91 or Part 135. The operator is the party who exercises authority over initiating, conducting or terminating a flight ***("Operational Control").*** The operator of the flight has legal liability whether the operator is the actual owner of the aircraft or merely a lessee.

Part 91

An entity that owns an aircraft may operate that aircraft under Part 91 as long as that operation is incidental to its business. That is, the entity must derive at least 51% of its revenue from business that is unrelated to its use of the aircraft. In that situation the entity is exercising Operational Control of the aircraft and as the operator it has liability for its operation of the aircraft.

An entity whose sole purpose is to own the aircraft (an ***"SPE"***) may not operate the aircraft without a Part 135 certificate. However, an aircraft may be owned by an SPE and then leased to an individual or business lessee who will then operate the aircraft under Part 91 pursuant to a "dry-lease." The lessee's use must be incidental to the lessee's business. The dry-lease is a lease for the aircraft alone, without crew, and may be with or without fuel. The lessee is responsible for providing its own flight crew either directly (e.g. lessee's employee[s]) or hired from an outside source (e.g. a pilot services or aircraft management company). In this situation, the lessee is exercising Operational Control and as the operator of the aircraft it has liability for its operation of the aircraft.

Part 135

The Part 135 certificate holder exercises Operational Control over the aircraft and all flights and, as a result, has legal liability for injury to persons or property arising from an aircraft accident or incident. Passengers on the aircraft do not have legal liability.

An aircraft owner, whether SPE or otherwise, may lease an aircraft to an air carrier holding a Part 135 certificate under a "dry-lease." The Part 135 operator then provides the crew (either using the Part 135 operator's employees or independent contractors who are then agents of the Part 135 operator) and conducts operations pursuant to its Part 135 certificate. In most cases the entity that owns the aircraft will not have any legal liability for the Part 135 certificate holder's operation of the aircraft.

OPERATIONAL CONSIDERATIONS

In addition to risk management, various differences between operational conditions and limitations under Part 91 and Part 135 must also be considered.

1. Airport Limitations:

(a) Runway Length Requirements

Part 91 - Runway length requirements are determined solely by aircraft requirements and limitations.

Part 135 - The aircraft must be capable of landing within 80% of the runway length. This affects/limits access to a significant number of smaller airports that may be more conveniently located to the ultimate destination.

(b) Weather Reporting:

Part 91 - An aircraft may begin an instrument approach to airports where there is no weather reporting and the pilots determine when they approach the airport whether they can land safely. Additionally, an aircraft may depart from an airport below IFR weather minimums.

Part 135 - An aircraft may not begin an approach to an airport that has no weather reporting facility unless the alternate airport has approved weather reporting. This may not only adversely impact whether or when a flight may depart, but it again has the potential to limit access to airports that are more conveniently located to the ultimate destination. Takeoff and alternate airport minimums also restrict whether and when a flight may be conducted.

2. Flightcrew Member Restrictions:

(a) Pilot Agency

Under both Parts 91 and 135, Flightcrew members must be agents of the party exercising operational control. This agency may be established by employment or contract. Flightcrew members who are employees of an entity other than the Part 135 certificate holder may be paid by their employer and still be agents of the Part 135 certificate holder provided the flightcrew members have entered into an appropriate agency agreement with the Part 135 certificate holder.

(b) Flightcrew member Duty Time Limitations and Rest Requirements:

Part 91 - Flightcrew member duty time and rest requirements are not imposed.

Part 135 - Flightcrew members are required to comply with specific duty time and rest requirements. The rules are complicated, but generally provide for a maximum assigned 14-hour duty day, limitations on the number of flight hours during a 24-hour period and required rest periods. Once a flightcrew member has reached his or her limit, that flightcrew member may not fly until the applicable rest requirements have been satisfied.

(c) Drug and Alcohol Testing:

Part 91 - Drug and alcohol testing of flightcrew members is not required.

Part 135 - Certificate holders must comply with the same drug and alcohol testing requirements as air carriers operating under Part 121. Flightcrew members are subject to pre-employment/transfer, random, reasonable suspicion/cause, post-accident, return to duty, and follow up drug and alcohol testing pursuant to the Part 135 operator's drug and alcohol testing program.

3. Restrictions and Fees in Foreign Countries:

Part 91 - Operations may be subject to some additional fees, but are typically not required to obtain additional licensing to operate in foreign countries.

Part 135 – Certificate holders operating within foreign countries are subject to bilateral air transport agreements between the U.S. and those countries. These agreements subject the Part 135 operator to fees, regulations and additional licensing imposed by foreign countries for its commercial operations. The fees are typically passed on to the customer, increasing the cost of the charter flight.

4. Maintenance and Equipment:

Under Part 135, the aircraft must be maintained in accordance with the manufacturer's maintenance manual or other approved maintenance program. This requires that certain maintenance, inspections, etc. must be performed and that the aircraft meets certain equipment requirements in order for the aircraft to be airworthy and flown under the Part 135 operator's certificate. Under Part 91, some of these maintenance items, inspections, etc. are not required. Thus, depending upon the aircraft and whether it is currently enrolled in any maintenance or warranty programs, the cost of maintenance for an aircraft operated under Part 135 is potentially higher than if the aircraft were operated under Part 91. However, if the aircraft is going to be operated under Part 91 and will also be on a manufacturer's maintenance program, then the difference in cost is likely to be minimal.

5. TSA Security Requirements:

Part 91 – Operations are not subject to TSA security program requirements. Part 91 operators are not permitted to operate within sterile areas at airports.

Part 135 - Certificate holders operating aircraft with a gross take-off weight in excess of 12,500 pounds are required to have a TSA approved security program in place. The Part 135 operator's flightcrew members are subject to criminal history records checks and certain training requirements. The security program requires timely transmittal of crew and passenger lists in advance of flights. This means that last-minute changes of passengers on a particular flight is usually not possible. Also, if the flight will be enplaning or deplaning within the sterile area of an airport, then additional screening requirements must be met.

CONCLUSION

As you can see, operations under Parts 91 or 135 have both advantages and disadvantages. Owners and operators of business aircraft need to carefully consider each in the context of their own circumstances. An in-depth discussion with a knowledgeable aviation attorney is also recommended to make sure their decision is the right one for their situation.

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. ❑

FAA Deputy Administrator Reaffirms ADS-B Mandate

WASHINGTON, DC – The General Aviation Manufacturers Association (GAMA) applauds the newly appointed Federal Aviation Administration (FAA) Deputy Administrator Dan Elwell for reiterating the FAA's firm commitment to the Automatic Dependent Surveillance Broadcast (ADS-B) 2020 compliance deadline for all aircraft flying in designated airspace, in some of his first public remarks at the NextGen Advisory Committee meeting in June.

Air traffic control system modernization activities are accelerating worldwide and general aviation has been at the forefront of this transformation. From early adoption of GPS capability in the cockpit, to rapid equipage with Wide Area Augmentation System (WAAS) technologies to enable GPS-based approaches at thousands of airports, through pioneering the development of ADS-B with the Capstone Program in Alaska, to the rotorcraft community's enthusiastic embrace of ADS-B equipage in the Gulf of Mexico, general aviation has led the way (www.GAMA.aero). ❑

Circle-To-Land Approaches (Continued) & The Holding Pattern Examined

by Michael J. "Mick" Kaufman


Michael Kaufman

In the June/July 2017 issue of *Midwest Flyer Magazine,* I addressed the topic of "circle-to-land" approaches and some of my comments were for pilots to avoid them whenever possible. I just finished reading a preliminary accident report of a fatal accident of a Lear 35 at Teterboro Airport, Teterboro, New Jersey (KTEB), which occurred on May 15, 2017. This aircraft was on a circle-to-land approach, and I have included a few excerpts below from the National Transportation Safety Board (NTSB) report, but I urge our readers to read the entire NTSB Report #CEN17FA183, available on the Internet. In talking with several professional pilots, especially airline pilots, their companies have specific rules prohibiting these approaches.

On May 15, 2017, at 1529 eastern daylight time, a Gates Learjet 35A, N452DA, operated by Trans-Pacific Jets, departed controlled flight while on a circling approach to runway 1 at the Teterboro Airport (TEB), Teterboro, New Jersey, and impacted a commercial building and parking lot.

The New York Terminal Radar Approach Control (TRACON) cleared the flight for the TEB ILS Runway 6 Approach, circle to land runway 1.

I think many of us upon reading the report would call this a pilot error, but we can go on and on reading reports of accidents involved in circle-to-land maneuvers. It puts the pilot in a tight situation with terrain/obstacles, slow airspeed, tight turns and keeping the airport runway in sight. I will discuss this topic more in future issues and will be looking for comments from our readers.

I found the topic of holding patterns a good topic for this issue of *Midwest Flyer Magazine*, as it is still an important part of instrument flying and an often-misunderstood topic.

I remember the first holding clearance I received while flying IFR in Instrument Meteorological Conditions (IMC), and it was 45-plus years ago, but very memorable.

I was on my way back from Rochester, Minnesota and I had just dropped off a friend to visit a patient at the Mayo Clinic and was returning home. I had received my instrument rating a few months previously, and this was my third flight in

IMC conditions. Back in those days, there were few autopilots and it was VOR and ADF navigation.

Shortly after takeoff from Rochester, and in IMC conditions, I received a holding clearance at an intersection. I was truly grasping for straws as I had no idea how to enter the hold, but I did remember not to hold at cruise airspeed, so immediately reduced airspeed. There was not much of a difference between cruise and holding airspeed in my old Cherokee 140, but it was enough. Before I reached the holding intersection, I was cleared to my destination. Back on the ground at my home airdrome, I evaluated my lack of knowledge and decided to draw holding patterns whenever I was given a holding clearance, and this has always worked for me. If I can visualize the hold, I can fly it, along with the entry.

Some years later, I received a phone call from an airline captain, who had been flying a Boeing 747, and he wanted some dual on holding patterns as he was going to take a Part 135 checkride in a Cessna 310. He told me that the 747 did the holding patterns for him; all he had to do was program them into his magic box. On the flight, which followed a few days later, I assigned him a hold. He was right that he had forgotten how to do them and did one backwards.

Today, many of us have those magic boxes in our aircraft and our skills to visualize and fly a hold have diminished. I have not received

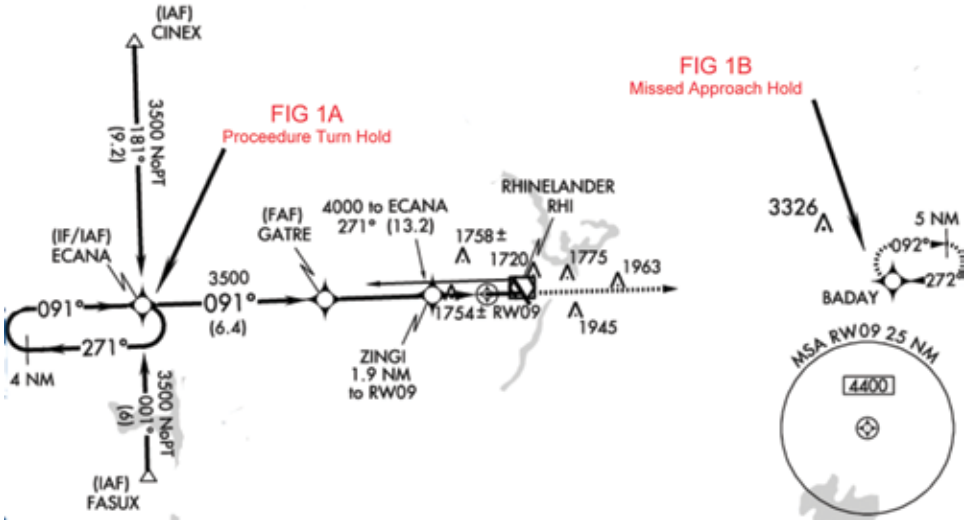


FIG 1 a & b

FIG 2

a holding clearance in the Midwest in several years, but we must keep our holding pattern skills sharp for the unexpected. If you fly much in the northeastern U.S., you are sure to get holds more often than in other parts of the country.

For the benefit of our readers, I will explain the different holding techniques, starting from the basics to using the most sophisticated of magic boxes. We will review wind corrections beginning with the educated guess, to using air-data computers and autopilots with the GPSS steering option.

Categories of Holds & Places Holds Are Assigned

Holding patterns fall into two categories, "published" (charted) and "non-published." The published ones are those

associated with a missed approach or are actually the procedure turn shown and drawn on an approach chart ***(FIG 1)***. If they are at different locations, the hold drawn with a solid line is the procedure turn hold ***(FIG 1a)*** and the one with the broken line ***(FIG 1b)*** is the missed approach hold. If only one hold is shown, it means that both are located at the same fix and represented by a solid line.

Sometimes, we see holding patterns drawn on an enroute chart, which is also a published (charted) holding fix ***(FIG 2)***. If the holding pattern is of the non-published variety, it is given to you as a verbal description by the controller. These are the ones that most pilots have trouble with as most of the early GPS devices do not have the capability of drawing and flying these holds without a lot of manual help from the pilot. Several of the most popular boxes that will not fly these non-published holds or the ones drawn on enroute charts are the Garmin 430/530 GPS navcoms and the Garmin 650/750 or G1000 with some of the early firmware. The Garmin 650/750 and G1000 navcoms with upgraded firmware will. We will cover setting up non-published holds with these GPS devices in a future article.

The one device that does a great job setting up non-published holds was the UPS technologies CNX80, which later was manufactured by Garmin and relabeled the Garmin 480. This device was way ahead of its time for general aviation, as it had the air-data function, as well as holding pattern design architecture.

Holding patterns can be drawn almost anywhere or assigned to the pilot at any identifiable fix by ATC, with the following examples of a few:

Final Approach Fix (FAF)
Initial Approach Fix (IAF)
Intermediate Approach Fix (IF)
VOR
Airway Intersection
GPS Waypoint
DME Fix from a VOR
NDB

Size & Shape of A Hold

The standard hold is a racetrack pattern, which is standard with right turns and one-minute legs (no wind), with wind correction. The pattern is adjusted to make the inbound leg the one-minute leg. This requires some pilot experience and an educated guess to get the holding pattern adjusted to conform to these specs if you don't have a magic box with the air-data option. It should be noted that it takes three turns around the holding pattern for the average pilot to get it within specs. On many of the GPS approaches, the holding patterns have a leg length given in nautical miles, rather than in time. On some non-published holds, ATC will assign a DME leg length. Holding

patterns are much easier today with GPS than they were 20 years ago, as I remember holding at an intersection with only one VOR.

Drawing The Hold & Entry

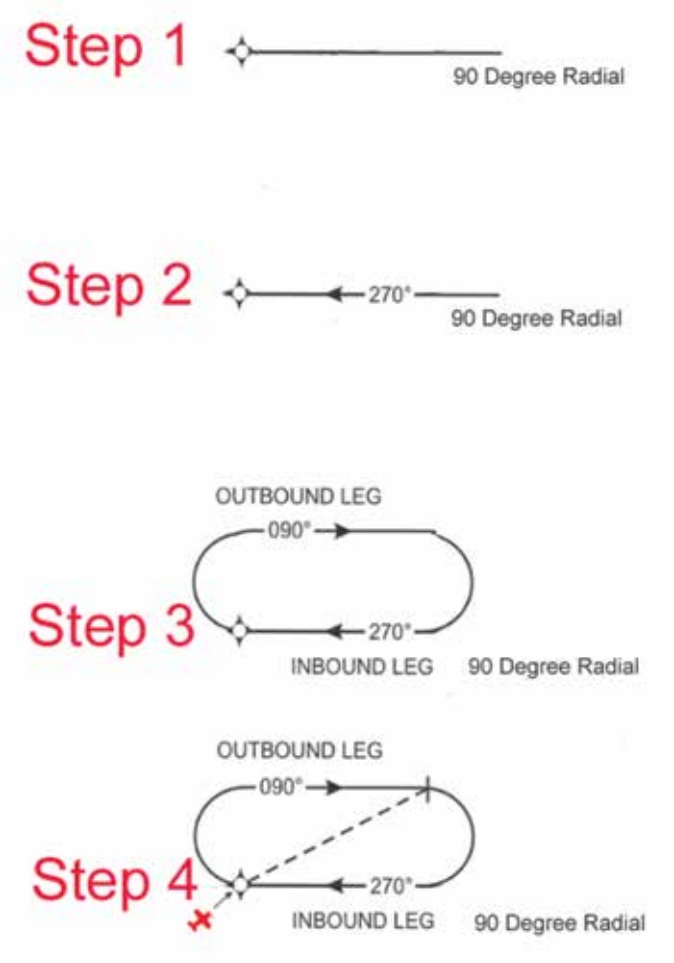


FIG 3

If the hold is a non-published one, it should be drawn on paper ***(FIG 3)*** using the following technique as described by air traffic control (ATC) per this example: **ATC:** *"Piper 4257 November, we have holding instructions. Advise when ready to copy."*

Pilot: *"Ready to Copy."*

ATC: *"57 November is cleared to the Rhinelander VOR to hold East on the 090-degree radial. Right turns. Expect further clearance at 20 past the hour."*

In drawing this hold, I start with a dot on the paper to represent the fix and then draw the radial in perspective (remember radials are "from" the fix and bearings "to" are to the fix and are opposite ***(FIG 3 Step 1)***. The next and important step ***(FIG 3 Step 2)*** is to draw an arrow to show the flight path and label the direction to the fix. This is where many pilots get the wrong perspective of the holding pattern because they forget this step. I then complete the drawing of the racetrack pattern ***(FIG 3 Step 3)*** showing a left or right-hand direction of the pattern. In this case, it is to the right. I mark my position on the paper relative to the fix to see what type of entry to the pattern I will make. An arrow showing the wind direction is also useful to help me visualize my crab angle and timing of the pattern legs. It should be noted in the clearance above that the ATC controller specified right-hand

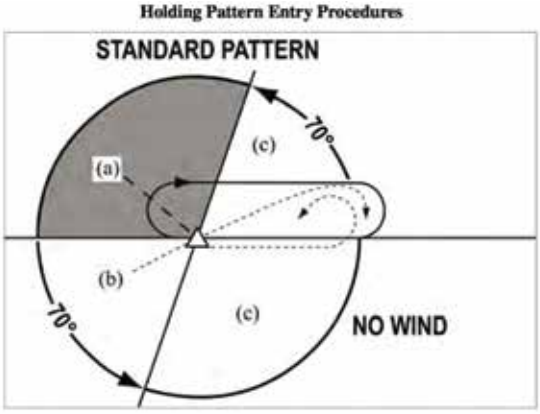


FIG 4

turns, as this is a standard for a hold and could be omitted in the clearance. Should the hold be a non-standard, left-hand hold, the direction would always be included in the clearance. The controller also did not mention leg length, meaning that it was the standard one-minute leg. Pilots should check the Aeronautical Information Manual (AIM 5-3-8) for holding airspeed and leg length for the altitude being flown. The entry into this hold (as shown) is a teardrop entry derived from the position of the aircraft from the fix.

In ***FIG 4***, I depict the recommended entry as shown in the AIM. The method that I have used is to calculate the entry using the fewest degrees of initial turn once I cross the fix the first time. Of course, if you have one of those magic boxes, it does it for you.

I had the opportunity to fly with a student from Milwaukee, Wisconsin in his beautiful A-36 Bonanza a few days ago, and we decided to try a holding pattern in a 50-plus knot wind. This would be a tough hold for the best of pilots, but the student had an air-data computer interfaced to his Garmin 530. I do not see this option installed very often on the Garmin 530, and we were excited to give it a whirl. I was amazed to see the holding pattern drawn with wind corrections on the 530 screen and the autopilot flew it perfectly with no over or under shoot, and the timing on the inbound leg was within 3 seconds.

When you read this issue of *Midwest Flyer Magazine*, we will be approaching the time of the world's greatest aviation show, "EAA AirVenture Oshkosh." I am hoping to have updates on some of the nifty new boxes and gizmos that will help improve both the way we fly and aviation safety.

I want to caution everyone flying to the event not to do anything stupid, and remember who is pilot in command. You know your limitations and the limitations of your aircraft, but the controllers or volunteers on the ground do not. Don't hesitate to refuse a clearance if it puts you and your aircraft in an unsafe situation, and most of all have fun. *Till next issue, fly safe and 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.

FAA Views On Slow Flight & Stall Training

by Harold Green

Harold Green

The FAA, in its infinitesimal wisdom, has seen fit to once again issue an edict intended to affect training and, in their opinion, increase safety. This latest action is directed towards slow flight and stall training. This will result in modification to the appropriate Airman Certification Standards for Private and Commercial check-rides. The stated basis for this change is that "loss of control in flight" continues to be the "leading cause" of general aviation accidents. The proposed changes to the practical test requirements are spelled out in Safety Alert for Operators, SAFO, 17009, dated 5/30/17. If you wish to read this for yourself, you may access it at: http://www.faa.gov/other_indistry/airline_operators/airline_safety/safo.

We will state the FAA recommendation concerning slow flight and stall training, then offer comments.

Slow flight statements. Essentially SAFO 17009 says the FAA will test a pilot applicant's ability to identify the stall warning and/or first stall indication and then the applicant's ability to adjust the power/pitch to a speed which will allow continued operation without the stall warning or stall to occur. Their example cites slowing the airplane to the stall warning, then adjust power/pitch to hold altitude and increase airspeed to just above the speed at which the stall warning activates and use that speed for maneuvers. To Quote: "The FAA maintains that the desired slow flight characteristics can be experienced, and therefore the learning objectives achieved in climbs, turns, descent and straight and level flight without intentionally flying the airplane with the stall warning." (Frankly, I am not exactly sure what is to be learned. It seems to me this is a great deal like the old story about the fellow who gave directions to Sam's house by saying: "Go down the road until just before you see John's house and then turn left.")

FAA's stated position on stalls is: "A pilot should always initiate stall recovery when a stall warning has occurred." Acknowledge cues of the impending stall and recover promptly after a full stall has occurred. This can be achieved by the pilot applicant stating, "Stall warning" or 'buffet" and then recovering to normal flight. The Airman Certification Standards (ACS) Skill Element for private pilots now requires the applicant to acknowledge the cues and recover promptly at the first indication of an impending stall. There are additional statements regarding the commercial ACS requirements. Restating them here would add nothing to our discussion, so to save space, they will not be repeated here.

My concerns with this approach are based in part on the fact that the majority of stall spin accidents in general aviation occur when turning to final. I find it very difficult to understand how this training is going to reduce this type of accident. The usual cause of these accidents is that the pilot overshoots final when turning from base and attempts to correct, resulting in uncoordinated flight, further resulting in a stall-spin at an altitude too low to recover. The FAA recommended training does nothing to prevent this occurrence as far as I can tell. If a pilot does not recognize an impending stall by this point, we have another problem indeed. I suggest that focus on coordinated flight, ground reference maneuvers, and prompt go-around decisions would be far more effective.

We do train for ground reference maneuvers, but how often do we point out that the airport pattern is a ground reference maneuver also, and that all those ground speed changes and the pilot's turning radius are in play? The most dangerous situation in the pattern is when a crosswind becomes a tailwind on base, increasing ground speed, resulting in overshooting the final path. The key thing then is when attempting to correct, and with attention on the runway, the pilot applies too much rudder resulting in uncoordinated flight and then, often too low, the nose comes up, the airspeed decreases and one wing stalls and there you have it - an uncoordinated stall, a wing drop, and the ground comes up rapidly.

According to the FAA Flight Standards District Office in Milwaukee, this is one of the two major causes of fatalities in our state, and I suspect in most states. The issue here is not that the pilot does not understand what is happening, but rather that there is insufficient priority on situational awareness, coordinated flight, and power/pitch relationships.

Frequently, when checking out a pilot to fly our airplanes at Morey Airplane Company, Middleton, Wis., the pilot is unfamiliar with the relationship between pitch and power. When too low, they often bring up the nose, rather than add power. If too slow, they add power, rather than adjust pitch. As far as coordination is concerned, the ball often resides at its limits when turning onto final. Yet, when performing stalls, pilots recognize the onset and generally recover well.

My conclusion is that the revised test requirements and the implied training involved will do nothing to reduce stall spin accidents in the pattern. I believe it would be far more effective to relate the training we presently provide to day-to-day operations of the airplane.

The problem I see with the FAA changes to the requirements are that for the light airplanes that make up the vast majority of general aviation, I do not believe it will achieve the goals that the FAA has set for it. When applied to heavier aircraft with high-wing loading, the results may be more positive.

An issue with the general FAA approach to such issues as addressed herein is that the focus is on heavier, higher

wing loading aircraft. In fact, the first sentence of the Background in SAFO 17009 states: "Loss of control in flight continues to be the leading cause of fatal general aviation accidents in the United States and commercial aviation worldwide." (Italics are the author's.) The FAA seems to be equating general aviation with commercial aviation and the two are not always synonymous. The training of pilots to always land with power in the pattern and the use of full flaps on all landings, also suggests this. This is to the point that pilots often consider a no or partial flap landing as an emergency procedure, and heaven forbid, power should not be available until touch down. The procedures described in SAFO 17009 make more sense when applied to higher wing loading, higher performance aircraft, however, their effectiveness in helping pilots recognize and/or recover from loss of controlled flight remain questionable in my mind.

The training that focuses on power landings and full flaps appears to be because jet aircraft must be flown in recognition of the fact that a turbine engine needs time to spool up from idle to full thrust. This then necessitates early application of power on go-around well in advance of the need. Therefore, the flaps, slats, landing gear and any other hardware are hung out to increase drag so the engine may be operated at a much higher power output than could be tolerated in a clean aircraft configuration. Then, if a go-around is required, the engine can be spooled up to full thrust much sooner than from idle and all that hardware can come up simultaneously resulting in a proper go-around. The reason for stating this here is that this relates directly to the FAA approach to teaching general aviation pilots.

In attempting to prepare pilots for this approach, they are taught to land with full flaps and controlling the pattern with power. Now this is okay except for the fact that in doing so, pilots are not trained to fly the airplane with feel, but rather, they are trained to use power to complete the landing with all the flaps hanging out. This can result in problems with crosswinds and loss of awareness of aircraft flight conditions. There are other issues created by this approach, but landings are a good example of issues created by this approach.

Frankly, it seems to me that the real issue is not understanding stalls, etc., but rather basic control of the airplane and recognizing the existing flight situation. Flying by the numbers is all well and good, but it should be in addition to, rather than in lieu of, talking with the airplane. All too often the pilot has no awareness of the aircraft that is not presented by an instrument. Listening to the air going by, seat-of-the-pants awareness of coordination, and pitch and bank attitude by reference to the horizon, coupled with instrument indications, may be a better approach.

Continued On Page 22

How Basic Med Works!

by Dr. Bill Blank


Dr. Bill Blank

I have been following "Basic Med" since the idea first arose, and waited to write this article until it was finally issued. I was afraid of last-minute changes which might lead to mistakes in the article.

Let's be clear…the Federal Aviation Administration brought this on itself because of slow response times and sometimes overly conservative policies. Even today, the FAA sends letters to pilots requesting further information within 60 days without providing a phone number or email address at the bottom of the letter for questions! Yes, there are phone numbers, but they are hard to find. Many of the FAA staff and physicians are hardworking and conscientious, but the system does not work as well as it could and is slow to change.

Basic Med is a big change. In talking to pilots, I think that many do not understand the magnitude of the change. The same is true of some Aviation Medical Examiners (AME). We would not expect most non-AME physicians ("state licensed physicians") to understand the FAA certification process. The real issue is what are the certification standards and who does the certification? More on that later.

Basic Med only applies to "pilots of certain small aircraft" (not more than six occupants or over 6000 lbs.). It really only applies to people who can fly with a third class medical. If the type of aircraft you fly or the type of operation you do requires a second or first class medical, that is still what you need. Third class medicals are also still issued.

The Basic Med "Comprehensive Medical Exam" can be performed by any state licensed physician (SLP). In most cases, it will probably be done by your primary care provider. It could be done by a pathologist, psychiatrist, cardiologist, radiologist, family physician, AME or any other SLP; the physician just needs to be willing to perform the comprehensive exam and sign the checklist. AMEs have to be state licensed. Physician assistants are not authorized to perform the exam.

Let's go through the steps. The pilot goes online and prints out the Comprehensive Medical Exam Checklist (form 8700-2), completes the form, and takes it to the SLP. By contrast, if you were going to get an FAA flight physical, you would go to Medxpress, complete the form and submit it electronically. While you would take the Comprehensive Medical Exam Checklist to the SLP, the AME would receive the Medxpress form electronically. In each case, the physician would read what you had submitted and perform the exam.

The Basic Med form is essentially the same as the Medxpress 8500-8, but there are significant differences. Both forms start with your demographics – name, address, etc. There are questions about medications and "have you ever in your life had" various health conditions. In either case, the examining physician would ask you the reason for any medication you are taking and the presence of side effects. If so, that would be discussed further, along with the health conditions reported.

Now, pay attention; here is one of the big differences between the two types of exams.

I, as an AME, have a list of non-FAA approved medications. If you are taking one of these medications, I am not authorized to issue you a medical certificate. Because of potential medication side-effects or the underlying disease for which the medication was prescribed, the FAA wants to review the exam. The SLP is not under this restraint. The directions for the Comprehensive Medical Exam Checklist encourage the SLP to consult various FAA aeromedical publications. He is not required to do so or follow the recommendations. If, in his best clinical judgement, he does not feel that the medication or disease would impair the applicant's ability to safely operate a motor vehicle or aircraft, he can sign the Comprehensive Medical Checklist.

The physical exam covers the same areas on each form. As an AME, I check normal or abnormal for each area examined. I must record blood pressure, visual acuity, etc., and must comment on every abnormal finding. The physician performing a Basic Med exam just checks "examined" for each area covered. He is not required to record anything else. If an AME encounters an abnormality, he may still be able to certify the pilot if he feels it is appropriate. If extra tests were required to justify this certification, the results would be forwarded to the FAA. The physician performing the Basic Med can also request additional information, but he is not required to put the results on the form.

I have frequently been asked if physicians will be willing to do Basic Med Comprehensive Exams. Some are already doing them. Some AMEs are doing them, too. I am not going to do them, but that is only because I am retired and want to do less, not more. If I were working full time, I would. One high-volume AME that I know (5000 flight physicals per year) uses the same standards as those of the third class medical exam. Other AMEs may not see the need do it that way. Perhaps a physician reading this article would want to

place an advertisement in *Midwest Flyer Magazine* indicating his willingness to perform Basic Med exams. I think he would be busy and provide a valuable service.

When an AME signs your medical certificate, he is saying that he has followed FAA guidelines and you meet FAA standards. A physician signing your Basic Med Comprehensive Checklist is saying that he feels it is safe for you to operate a motor vehicle or certain small aircraft. He is using standards that he feels are appropriate. He, in all likelihood, knows motor vehicle standards. Remember, either physician is saying that he thought that you were fine when you walked out the door.

The other aspect of Basic Med is the requirement for the completion of an online medical course. I took the course so I could comment on it for this article.

I found that the course helps increase the awareness of many pilots about various medical conditions. This knowledge will be useful for one's health in general, too. Most people, pilots included, probably don't think much about these things until they become old enough to start having problems. Regardless of the type of medical certificate we have, we are required to self-certify ourselves each time we get into the cockpit. That is the last line of defense against medically-related aircraft accidents.

I hope this article helps you understand the Basic Med certification process. Basic Med will, I think, ease the certification process for many pilots. I don't think it will lead to more medically-related accidents, and I hope I am right about that. State licensed physicians are not going to certify people they feel are not healthy enough to fly. It won't, and it never was intended to be a way around regulations to certify people with serious medical conditions who should not fly.

EDITOR'S NOTE: William A. Blank is a physician in La Crosse, Wisconsin, and has been an Aviation Medical Examiner (AME) since 1978, and a Senior AME since 1985. Blank is a retired Ophthalmologist, but still gives some of the ophthalmology lectures at AME renewal seminars. Flying-wise, Blank holds an Airline Transport Pilot Certificate and has 5600 hours. He is a Certified Instrument Flight Instructor (CFII), and has given over 1200 hours of aerobatic instruction. In addition, Blank was an airshow performer through the 2014 season, and held a Statement of Aerobatic Competency (SAC) since 1987.

Pilots are encouraged to email info@midwestflyer.com regarding their ability or inability to find someone to do a Basic Med exam.

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

FBO Consolidation Disrupting General Aviation

by Mark Baker
AOPA President & CEO


Mark Baker

In this age of technology and disruption, retailers are constantly finding new ways to improve consumer shopping experiences. From apps that compare prices, to delivery services that allow you to save time and money, the marketplace is constantly evolving and benefiting consumers. Unfortunately, parts of the FBO market are heading in the opposite direction, much to the detriment of GA.

AOPA advocates for protecting the freedom to fly, and everything that goes along with those freedoms. Sadly, we are seeing a small number of FBOs affecting access for aircraft owners and pilots by imposing egregious prices, and seemingly preventing pilots from doing what they love most. Many of these problematic FBOs have been part of recent industry consolidations at high demand airports and they are often the only FBO that serves an airport.

AOPA is concerned about the ongoing consolidation of the FBO market which has accelerated over the past five years, and subsequent lack of competition in various locations across the country.

In 2016, merger fever really heated up. Rates for FBO fees and fuel prices continued to climb at these locations, where many times fees were demanded even when pilots didn't request any services. Flash forward to 2017, where the chorus of complaints from members has skyrocketed, with fees reaching rates that pilots say are preventing them from accessing certain FBO locations.

Airport sponsors – generally those municipalities or authorities that own airports – can influence prices at their facilities. In fact, when accepting federal grants, they have a direct responsibility to guarantee fair, reasonable, and nondiscriminatory pricing. New regulations aren't necessary to remedy the current circumstances facing general aviation. However, there should be transparency in fair and reasonable fees, especially when pilots arrive on a ramp and don't require services.

From what we are currently seeing, airport sponsors and community leaders are the solution. Pricing concerns expressed to AOPA to date also include reports submitted by airport managers who are aware that the "outrageous" prices charged at some locations have detrimental consequences on the entire pilot population. We are working with community leaders to find a solution that works for all parties involved, and that includes airport managers and sponsors who have asked for our help and guidance. Officials at California's Orange County airport took action to replace an FBO that was charging too much. In Jackson Hole, Wyoming, the airport board agreed to allow a competitive FBO after hearing complaints about high fees.

While there may not be a quick solution to solve this problem, AOPA continues to work with the FAA and industry stakeholders, to ensure that steps are taken to preserve profitability for FBOs and reasonable access for pilots at public-use airports.

AOPA continues to encourage input from our members and to work with stakeholders and communities to eliminate egregious prices. If you believe you have been the victim of unreasonable pricing at an FBO, please send us a report at aopa.org/FBOfees. ❑

GREEN - FAA VIEWS FROM PAGE 19

In summary, it is my position that the FAA places far too much emphasis on training for large turbine aircraft compared to smaller aircraft. Yes, they both adhere to the same laws of physics, but there are also operational differences created by the physical difference in the airplanes. I do believe that with proper adjustment in our training requirements, both can be accommodated with advantage to both. That may be the subject of a later article. For my part, I intend to continue the training regime I have used and will add the requirement of SAFO 17009 to enable students to pass the check-ride. Perhaps, in the process, advantages to the new requirements may be realized.

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. ❑

Ohio Native Named AOPA Great Lakes Regional Manager


Kyle Lewis

Ohio native, and longtime AOPA and EAA member, Kyle Lewis, has been named manager of the AOPA Great Lakes Region. Lewis graduated from Ohio University's Russ College of Engineering with a Bachelor of Science degree in Aviation. There, Lewis obtained his Private Pilot Certificate and Instrument Rating. Lewis spent the next 10 years with the Ohio Highway Patrol, but kept close ties with the aviation community serving on the Jackson County Airport Authority in Jackson, Ohio, where the board oversaw multiple FAA and locally funded projects. Lewis also serves on the Ohio University Department of Aviation Flight Training Alumni Board. In 2012, Lewis and his father completed the construction of their own aircraft, an RV-12, which Lewis currently flys and maintains with his Light Sport Repairman Certificate. Lewis replaces Bryan Budds, who accepted a position as Advisor to the Michigan Aeronautics Commission and Manager of the Transport and Safety Section of the Michigan Department of Transportation Office of Aeronautics. ❑

From Gatherings To Floatplanes & ATC Privatization

by Kyle Lewis
Manager, Great Lakes Region
Aircraft Owners & Pilots Association

The AOPA Great Lakes Regional Manager post had been vacant for nearly a year before I filled the position this spring, and I am getting up to speed on a number of legislative and airport advocacy issues. These range from fighting airport closures, funding problems, sales tax exemptions, and state aviation budgeting shortfalls. So far, I have been to a few events in the region, including the "Great Minnesota Aviation Gathering" (GMAG) held at Anoka County-Blaine Airport in the Twin Cities in April, and the "Minnesota Seaplane Pilots Association (MSPA) Safety Seminar" at Maddens on Gull Lake in Brainerd, Minnesota in May.

Both events were well produced and focused on safety training. Andy Miller, AOPA Ambassador for the "You Can Fly" initiative, presented the Rusty Pilots Seminar at GMAG and had a very positive response. If you have not yet attended a Rusty Pilots Seminar, rusty pilot or not, I

highly encourage you to (free for AOPA members). Andy is excited and passionate about flying, getting pilots involved, and creating a positive learning environment. GMAG was held at Greg Herrick's Golden Wings Aviation Museum, which is an amazing venue, full of golden age aircraft (www.goldenwingsmuseum.com).

The MSPA weekend at Madden's was well attended, even if the weather felt more like October than May. There were 22 aircraft at Madden's Seaplane Base on Gull Lake, 21 aircraft at East Gull Lake Airport (9Y2), and 185 people attended the banquet featuring AOPA President Mark Baker, who spoke of the many new initiatives AOPA is currently engaged in.

The take home point of Mark's speech is GA is looking good! For all the negatives encountered over recent years, AOPA is leading the fight to making GA as strong as ever. BasicMed and Part 23 rewriting are just a couple of the landmark wins recently. AOPA's "You Can Fly" program is already making an impact on the number of active pilots in a very positive way. Mark is an avid floatplane pilot and was right at home among the attendees. The entire experience has motivated me to get my seaplane rating as soon as possible.

Other presentations at the MSPA Seminar ranged from FAA compliance philosophy, Minnesota Department of Natural Resources Wildlife Management (did you know the DNR drops fish from a floatplane to stock lakes!), and risk management, presented by well-known warbird pilot and self-proclaimed low-time floatplane pilot, Doug Rozendaal of Mason City, Iowa.

Switching gears, on the legislative front, in Michigan, there are currently two House Bills (4350/4351) that will create a sales tax exemption for the parts and repair of GA aircraft registered in Michigan. This will affect nearly 6,000 GA aircraft in the state. Currently, the sales tax is waived for out-of-state registered aircraft, leaving in-state owners the option of going to Ohio, Wisconsin or Indiana to purchase parts or seek maintenance sales tax free. By passing this law, Michigan repair shops will get back into the business of GA maintenance that is currently taking a hit. Hopefully, by the time this article is published, the legislation will be signed into law by the governor.

In Ohio, the bi-annual appropriations budget is in the state senate, and has a comparable aviation budget to the previous years' budget. Nearly $6 million will be slated to go into the state grant assurance program. Ohio is now matching 5% of the local required match for FAA grants, leaving only 5% for local municipalities.

Nationally, President Trump has taken a stand on ATC privatization, and it is not what is in the best interest of the GA community. You will hear more and more on this issue, but AOPA is against any policy that would create user fees for general aviation. Of course, AOPA is in favor of making the ATC system more efficient and robust (NextGen), building upon what we have. The current ATC system in the United States is the safest and most efficient in the world. Stay informed on the issue and help educate your local pilot community and elected officials.

Another highlight of my job here at AOPA includes interacting with "Airport Support Network" (ASN) volunteers. If you are not familiar with the program, AOPA maintains a set of volunteers, one per public-use airport, to be the eyes and ears of AOPA. As I tell my volunteers, this is an avenue in which to highlight the good and notify AOPA of any questionable operational restrictions or circumstances. AOPA ASN volunteers help educate their community and local governing bodies on airport operations and the value of the airport. In the Great Lakes Region, there are currently 459 public-use airports that do not have an AOPA ASN volunteer. To be a volunteer, you need to be a current AOPA member. Visit this website for more information: https://www.aopa.org/advocacy/airports-and-airspace/airport-advocacy/asn/about-the-airport-support-network

In my short time at AOPA, so far, I have encountered numerous pilots, airport and FBO managers, aviation enthusiasts and industry coworkers who have been more than welcoming. It is very humbling to be able to work in General Aviation and experience it firsthand! I look forward to visiting every corner of the states I represent and meeting everyone that makes General Aviation one of our greatest freedoms and privileges in these United States. Please feel free to contact me at kyle.lewis@aopa.org ❑

General Aviation Groups Remain United Opposing ATC Privatization

WASHINGTON, DC –Thirty-three general aviation groups have issued the following joint statement in opposition to the air traffic control privatization proposal included in the 21st Century Aviation, Innovation, Reform and Reauthorization (AIRR) Act:

General Aviation is an important American industry that generates over $219 billion in total economic output, supports 1.1 million jobs, and includes a network of thousands of airports and heliports that connect many rural communities to the rest of the world.

After a thorough and detailed review of Chairman Bill Shuster's (R-PA) proposal, H.R. 2997, the AIRR Act of 2017, which would remove our nation's air traffic control operations from the Federal Aviation Administration (FAA), we have concluded that these reforms will produce uncertainty and unintended consequences without achieving the desired outcomes.

While we enjoy the safest most efficient air traffic control system in the world, we also believe that reforms, short of privatization, can better address the FAA's need to improve its ability to modernize our system. We have concluded that any structural and governance reforms that require protections for an important sector of users is fundamentally flawed. In addition, the billions of dollars and time that would be spent transitioning our nation's air traffic control system to a not-for-profit entity can be better applied to the continuing progress to update and modernize our air traffic control system – including meeting the FAA's mandate to equip the general aviation fleet with see-and-avoid (ADS-B) technology by 2020.

Moreover, with strong bipartisan opposition in both the House and Senate to remove air traffic control operations from the FAA, we believe efforts should focus on developing a long-term FAA Reauthorization that creates the stability and funding necessary and that can reach the President's desk for signature. We are committed to addressing needed reforms that create predictable and stable funding for the FAA including biennial budgeting, consolidating unneeded and outdated facilities, procurement, and certification reforms, and putting to use some of the balance from the Airways and Airport Trust Fund to expedite technology deployment. We are ready and willing to work with all industry stakeholders and Congress to advance the consensus needed to improve our current system and to ensure that our nation's air traffic control system remains the envy of the world.

The 33 general aviation groups that are united against ATC privatization include the Aircraft Owners and

Pilots Association, Experimental Aircraft Association, National Business Aviation Association, General Aviation Manufacturers Association, National Air Transportation Association, National Association of State Aviation Officials, ABS Air Safety Foundation, Air Care Alliance, Alaska Airmen Association, Association of Air Medical Services, California Pilots Association, Cardinal Flyers Association, Cessna Flyer Association, Cessna Pilots Association, Cessna Pilots Society, Citation Jet Pilot Association, Classic Jet Aircraft Association, Commemorative Air Force, Flight School Association of North America, Glasair Aircraft Owners Association, Helicopter Association International, Kansas Pilots, Kentucky Aviation Association, Lancair Owners and Builders Organization, Light Aircraft Manufacturers Association, Minnesota Pilots Association, Mooney Summit, Piper Flyer Association, Recreational Aviation Foundation, Soaring Society of America, South Dakota Pilots Association, Tennessee Aviation Association, Veterans Airlift Command, and the Washington Pilots Association.

Obviously given more time to organize opposition, literally a thousand or more local and state aviation organizations would have signed on, so even though your organization is not listed, the time to act is now in contacting your elected officials in Washington and opposing ATC privatization.

AOPA is providing the following link so that both AOPA members and non-members – individually and as groups – can contact their elected officials in Washington: https://app3.vocusgr.com/WebPublish/Controller.aspx?SiteName=AOPA&Definition=ContactLegislators&IssueID=9550 and voice opposition to H.R. 2997. ❑

Senate Commerce Committee Approves Consensus FAA Reauthorization Legislation

WASHINGTON, DC – On June 29, 2017, the Senate Commerce Committee approved by voice vote S.1405, the FAA Reauthorization Act of 2017, bipartisan legislation reauthorizing FAA programs through September 30, 2021. Chairman Thune (R-SD), Ranking Member Nelson (D-FL) and the other Commerce Committee members approved the consensus legislation benefiting the entire aviation community. ❑

House Committee Approves FAA Reauthorization Bill

WASHINGTON, DC – The House Transportation and Infrastructure Committee approved a six-year FAA reauthorization bill on June 27, 2017 by a vote of 32-25 that includes a controversial plan to corporatize the air traffic control system. Although committee members approved an amendment to boost Airport Improvement Program funding to almost $4 billion by fiscal year 2023, up from $3.8 billion in the underlying bill, they did not discuss or vote on a proposal to eliminate the federal cap on Passenger Facility Charges (PFCs). Rep. Thomas Massie (R-KY) and Ranking Member Peter DeFazio (D-OR) considered proposing an amendment to eliminate the PFC cap, but did not offer their proposal during the committee markup. The American Association of Airport Executives (AAAE), Airports Council International - North America (ACI-NA), and the U.S. Travel Association have worked closely together in an effort to convince committee members to consider and pass the DeFazio/Massie PFC amendment. The associations will continue working to convince lawmakers to address the PFC cap as FAA reauthorization legislation and a potential infrastructure package are considered by Congress. ❑

Bridget Rief Named Vice President - Planning and Development At Metropolitan Airports Commission


Bridget Rief

MINNEAPOLIS-ST. PAUL – Bridget Rief, a 20-year veteran of the Metropolitan Airports Commission (MAC), has been promoted to the position of vice president – planning and development, effective July 1, 2017. In that position, Rief will oversee capital improvement programs from planning through construction at the MAC's seven airports, including Minneapolis-St. Paul International and six general aviation airports: Airlake (in Lakeville), Anoka County-Blaine, Crystal, Flying Cloud (in Eden Prairie), Lake Elmo and St. Paul Downtown. Rief replaces Gary Warren, who retired June 30.

"Bridget has managed hundreds of millions of dollars in airport improvement projects during her two decades of service at the Metropolitan Airports Commission," said MAC Chief Operating Officer Dennis Probst. "In the process, she has worked with airport tenants, community leaders, governmental entities and stakeholders throughout the Twin Cities metropolitan area to ensure investments in our airports result in increased safety and efficiency, while minimizing environmental impacts."

During her time at the Metropolitan Airports Commission, Rief has managed a wide variety of airport improvement projects at MAC's seven airports, including numerous efforts related to the $3 billion MSP 2010: Building a Better Airport program. Prior to this appointment, Rief served as director of MAC's Airport Development Department. In that capacity she oversaw construction related to MSP's 2020 long-term comprehensive plan, including a four gate expansion of Terminal 2-Humphrey, and efforts currently underway to improve and expand the Terminal 1-Lindbergh complex: multi-year projects to modernize the terminal's arrivals and departures areas; ground preparations for a new 300-room InterContinental Hotel and construction of a skyway connecting the hotel to the terminal; plans for a new 5,000 space parking ramp to satisfy Terminal 1 parking demand; and roadway and parking exit plaza changes to accommodate the expanded parking facilities.

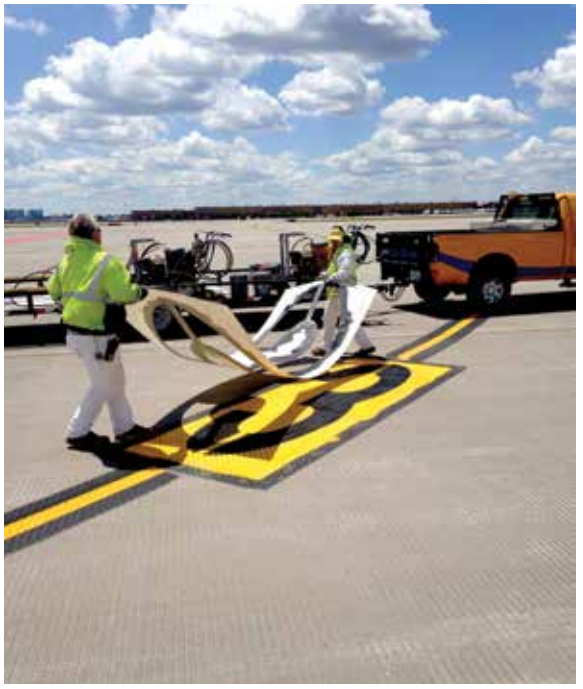
Rief's key achievements at MAC's general aviation airports include expansion of Flying Cloud's primary runway to 5,000 feet and creation of a new south hangar development area, as well as serving as a central force in creating a public-private partnership with Anoka County that allowed for expansion of that airport's primary runway to 5,000 feet, and construction of a new development area for hangars and commercial aviation facilities on the northwest side of the airport.

"More than 50 million passengers are expected to use Minneapolis-St. Paul International Airport by 2035, and I look forward to leading the efforts to enhance our facilities to meet that demand," said Rief. "We are updating our design and construction standards to incorporate new sustainable building parameters, exploring universal accessibility concepts and reviewing design and building options that are both financially sound and environmentally friendly. In every aspect of airport planning and development, we want to reflect the MAC's vision of providing your best airport experience."

Rief holds a civil engineering degree from the University of Minnesota. She is also a graduate of the Hamline University Public Works Leadership Academy. She and her husband have three children and live in Lakeville, Minnesota. ❑

MAC Paint Shop's Work Is Everywhere, Embracing Sustainability

MINNEAPOLIS/ST. PAUL, MINN. – Some paint jobs are so big they seemingly never end. At Minneapolis-St. Paul International Airport (MSP), the paint shop is responsible for keeping a clean coat on thousands of square feet of indoor wall space, the striping of 23,667 parking spots, lane markings on roadways controlled by the Metropolitan Airports Commission (MAC), and, of course, all of the airfield pavement. And by the time the paint shop finishes the outdoor tasks – particularly the striping of parking spots and the airfield markings – another year passes quickly and it's time to put on a fresh coat.



Paint shop employees Mathew Marty (left) and Ryu Lyfoung (right) remove a stencil from a freshly painted marker on a deicing pad.

Along the way, the paint shop and its 10-person crew works to keep its operation as sustainable and environmentally responsible as possible. That includes a continuing emphasis on using water-based paint over oil, and a reclamation process for solvents used in the painting process.

The Federal Aviation Administration inspects the entire airfield each year, and the markings have to be clean and clear.

Recently, MAC paint crews have been putting down a new coat on the airfield deicing pads – work that can be done during the daytime in the summer. All the runways and many of the taxiways involve night painting, when air traffic is minimal.

In an average year, the paint shop orders about 18,000 gallons of paint. And when they put down a new traffic stripe, how do the painters keep the line straight? The paint-striping truck used on the airfield has an aiming pointer – essentially a pipe attached to the vehicle near the paint guns on the front of the truck. Once the paint gun is lined up on a runway stripe, the driver will visually line up the pointer on the middle seam of a runway's concrete. Using that as a guide, the rig moves slowly forward and the line is applied accurately. A new paint-striping truck recently acquired comes with a laser pointer.

The paint shop is also responsible for many of the signs seen around the airport, including road signs on interior roads, parking signs and some digital prints used in the terminal buildings. ❑

Southern Illinois Airport Is Best Location To Observe Solar Eclipse

CARBONDALE, ILL. – On Monday, August 21, 2017, portions of the United States will experience a total Solar Eclipse, and Southern Illinois Airport in Carbondale, Illinois, is closest to the point of longest duration of darkness. As a result, the airport is expecting many visiting aircraft.

Fly-in aircraft are urged to register their arrival and other requests on the airport website: www.siairport.com. Once on the website, go to the Solar Eclipse Questionnaire to complete a very short survey. Each survey will be acknowledged.

The airport will have plenty of viewing space on the field during the Eclipse and Solar glasses will be available. Food and merchandise sales will take place. Grass parking and camping locations for pilots and their passengers will also be accommodated. The airport has significant tie-down capacity, but registering in advance will aid in planning. Aviation fuel will be sold at a discount.

The City of Carbondale and Southern Illinois University will host music and festival activities throughout the weekend. Numerous media outlets and the National Aeronautics and Space Administration will be broadcasting live from the city that day. ❑

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Wintering, Vacationing & Flying In Florida

by Dave Weiman

When most of us Midwest flyers think of Florida, we think of getting away from the cold and snow, walking white sand beaches, and flying to Sun 'n Fun. Florida has the weather every pilot dreams of. There's no snow to shovel in front of hangars, preheating engines is not necessary, and there are many airport restaurants and vacation destinations to fly to.

Depending on where you live in the Midwest and your final destination, Florida is between 1,000 and 1,500 nautical miles southeast, and the course is mountain free if you fly west of the Appalachian Mountains. One or two fuel stops for most small GA aircraft, and a day's travel, and you can be soaking up the sun in the middle of winter, but you will likely not be alone, so it is best to book your accommodations well in advance.

Tekla Dragan of "The Beachcomber," Nokomis, Fla., was featured in a 1977 AOPA Pilot magazine article seen here, when she was an AOPA Aviation Explorer. *Dave Weiman Photo*

One place we visited was "The Beachcomber" on Casey Key in Nokomis, Fla., just south of Sarasota. Owner Tekla Dragan and her husband, Robert, have aviation backgrounds. Tekla was featured in a 1977 issue of *AOPA Pilot* magazine as one of AOPA's Aviation Explorers who obtained her Private Pilot Certificate at age 17. Robert is an accomplished skydiver. For additional information on The Beachcomber, call 941-488-0715 or visit www.beachcombercaseykey.com.

Not far from Nokomis is Venice, Florida, and "Sharky's on the Pier" is located next to Venice Municipal Airport. When you land, park your plane at Suncoast Air Center, then call Sharky's for a shuttle (www.sharkysonthepier.com). If you prefer, enjoy breakfast or lunch at the Suncoast Café at the airport (www.suncoastcafe.com).

In February, the Collings Foundation holds its annual "Wings of Freedom Tour" at Venice Municipal Airport (KVNC), showcasing its B-24 Liberator, B-17 Flying Fortress, and dual-control P-51C Mustang "Betty Jane." The Collings Foundation is a non-profit, educational foundation (501(c)3), founded in 1979, and headquartered in Stow, Massachusetts (www.collingsfoundation.org).

Other airport restaurants in the area include C.J. Cannon's Restaurant at Vero Beach Regional Airport (www.cjcannonsrestaurant.com), and Hallbacks Bar and Grill at Lakeland Linder Regional Airport (www.hallbacksbarandgrill.com).

Bill Blake of Sarasota, Florida, enters the traffic pattern at Lakeland Linder Regional Airport in his Cessna 172 Skyhawk, as part of a weekly fly-out of Venice, Fla. pilots to popular airport restaurants. *Dave Weiman Photo*

I had the opportunity to fly with a group of pilots from Venice to Lakeland Linder Regional Airport for lunch on one of their weekly fly-outs. Every Thursday, the group meets at the airport and the flight leader announces their destination for the day. I flew with former AOPA Great Lakes Regional Manager and Illinois Aeronautics Director, Bill Blake, in his late model Cessna 172 Skyhawk. Bill and his wife, Nancy, now reside in Florida.

On approach at Lakeland Linder Regional Airport, Lakeland, Fla. *Dave Weiman Photo*

The air traffic control tower at Lakeland was not prepared for the mass arrival of some 20 aircraft, and encouraged the

group to give them a heads up next time. Fair enough! The restaurant knew we were coming, but the tower did not. Also, whenever flying in a group, it is a good idea to have aircraft take off based on speed with the fastest planes in the lead. As we flew along in Bill's C172, we had two RVs pass us overhead. An awesome sight, but I wish they had taken off ahead of us, so they would not overtake us.

Lakeland Linder Regional Airport

Gene Conrad of Lakeland Linder Regional Airport was named "General Aviation Airport Manager of the Year" in 2015 by the Southern Region of the Federal Aviation Administration.
Dave Weiman Photo

Lakeland Linder Regional Airport is run by two former Midwesterners – Eugene Conrad, director, whose father, Blair, was the airport manager at Wittman Regional Airport in Oshkosh, Wis. for many years, and Chris Hallstrand, assistant director, who managed Price County Airport in Phillips, Wis., and was operations manager at Wittman Regional Airport.

In April of each year, Lakeland Linder Regional Airport hosts Sun 'n Fun – the second largest fly-in in the country. During that week, the airport has some 8,000 aircraft operations (www.sun-n-fun.org). Former Naval aviator, John "Lites" Leenhouts, is President and CEO, and to his credit, he has helped make the event and the Sun 'n Fun organization, profitable!

Family, students, faculty and friends of Central Florida Aerospace Academy: (L/R) Chris Hallstrand of Lakeland Linder Regional Airport with his son Hunter, daughter Danyele, Mike Zidziunas of the high school, and Sun 'n Fun President & CEO John Leenhouts with his 1941 N2S Stearman biplane. The Sun 'n Fun offices are located next to the high school. *Dave Weiman Photo*

So it may be true that Sun 'n Fun put Lakeland Linder Regional Airport on the map, the same as EAA AirVenture Oshkosh put Wittman Regional Airport on the map, but there's more to Lakeland Linder Regional Airport than Sun 'n Fun.

Business & Government Agencies

General aviation businesses at Lakeland Linder Regional Airport include Gulf Coast Avionics, Mac Avionics, Aeromech, Double M Aviation, Dixie Jet & Rotor Services, Fixed Wing Aviation, Lakeland Aircraft Maintenance, Lance Aviation, Foster's Aircraft Refinishing, Duncan Interiors, RDI Interiors, My Jet Manager, and the Pilot Mall. The airport is served by Atlantic Airlines.

The new headquarters for NOAA's "Hurricane Hunters."

The defense contractor Draken International has a new facility on the airport, as does the National Oceanic and Atmospheric Administration (NOAA) which moved its "Hurricane Hunters" weather squadron of 100 employees and fleet of nine aircraft – including its modified P-3 Orions "Kermit"

Members of the Central Florida Aerospace Academy Aero Club.
Dave Weiman Photo

and "Miss Piggy" – from MacDill Air Force Base near Tampa, where they have been for the past 24 years, to a new 106,000 square foot facility at Lakeland Linder Regional Airport in June.

Lakeland Linder Regional Airport will also soon have its own U.S. Customs office, thanks to joint funding by the fixed base operator "Sheltair," the Polk County Tourism Development Council, and the Florida Department of Transportation. The customs office will be especially helpful with personal, corporate and charter flights from the Caribbean and Latin America.

Another business coming to Lakeland Linder Regional Airport is the Norwegian drone company, Griff Aviation North America. Griff drones are capable of lifting 400 lbs. The company will lease 4,900 square feet on the south side of the airport for manufacturing.

There are 1,000 high-skill, high-wage jobs at businesses on the airport, and this number is growing!

Besides the businesses and government agencies, Lakeland Linder Regional Airport is an educational mecca and home to four flight schools, the Aerospace Center for Excellence, Travis Career Center's A&P Program, Polk State College Aerospace, and Central Florida Aerospace Academy.

Central Florida Aerospace Academy

Central Florida Aerospace Academy of Kathleen High School was built through the generosity of World War II veteran and businessman, James C. Ray, who donated $7.5 million to build the school.

Through a combination of relevant academic experiences, collaboration with the local aerospace community, and an aviation focus, all students at Central Florida Aerospace Academy engage in a rigorous college preparatory program that maximizes their potential for successful careers. Students are challenged with a rigorous curriculum and tailored hands-on experiences with special focus on science, technology, engineering, and math (STEM). The academy responds to the needs of industry by placing emphasis on teamwork, individual achievement, skill development, creativity, and innovation, as well as critical thinking. Major courses of study include Engineering, Aerospace Technologies, Avionics, Airframe and Powerplant Mechanics, and Air Force JROTC.

Two students attending the school are the son and daughter of airport assistant director, Chris Hallstrand. For additional information, visit www.flycfaa.com.

For additional information on Lakeland Linder Regional Airport, visit their website www.lakelandairport.com, email gene.conrad@lakelandgov.net, or call (863) 834-3298. ❑

Pentastar President & CEO Elected NATA Chairman


Greg Schmidt

WATERFORD, MICH. – Greg Schmidt, President & Chief Executive Officer of Pentastar Aviation, Waterford, Mich., has been elected to serve as Chairman of the National Air Transportation Association (NATA) Board of Directors. Schmidt has served on the NATA board since 2013, having previously served as Treasurer and Vice Chairman.

Schmidt has served as President & CEO at Pentastar Aviation for four years and been with the company since 2008. During his career, he has held numerous leadership roles in the aviation, homebuilding, and financial services industries.

Pentastar Aviation, wholly owned by Edsel B. Ford II, is a leader in the world of business aviation, providing air charter and fixed base operation services, and aircraft management, advisory, maintenance, avionics, and interior services (www.pentastaraviation.com).

NATA represents fixed base operators and other aviation businesses in Washington, DC (www.nata.aero). ❑

Gaits Founder Retires


Greg Gorak

MILWAUKEE, WIS. – After a 48-year career teaching flight instructor refresher courses, and graduating 19,000 certified flight instructors, the founder of Gaits Aviation Seminars, Greg Gorak, retired in March 2017.

Gorak holds an Airline Transport Pilot Certificate and has accumulated 8,600 hours. He was chairman of the Career Pilot Program at Gateway Technical Institute in Racine, Wis. for nine years and also taught for the National Association of Flight Instructors (NAFI). Gorak then founded Gaits Aviation Seminars, Inc. in 1977, and was on the Presenter's Circuit for 49 years.

Gorak flew charter for seven years, accumulating thousands of hours in various turboprops including the Beechcraft King Air and Cessna Citation.

In his teaching role at Gaits, Gorak utilized his education in radio/television broadcasting from Marquette University, his graduate degree in Administration from the University of Wisconsin, and his background in acting and comic opera singing.

Continued on Page 62

Last Surviving Doolittle Raider & B-25 Mitchell Bombers Highlight Events Commemorating 75th Anniversary of Doolittle Raid

Four B-25 bombers fly the "Missing Man" formation over the Memorial Service honoring the 75th anniversary of the Doolittle Raid on Japan, April 18, 1942. The memorial service, held at the National Museum of the United States Air Force on April 18, 2017, included two B-25 fly-overs. The first was a typical bomber staggered formation, and included 11 aircraft. The second was the Missing Man Formation and honored the 79 members of the original Raiders who have passed away. The last living Raider, Lt. Col. Richard Cole, was a participant in the memorial ceremony. *U.S. Air Force Photo by Wesley Farnsworth*

Air Force Chief of the Staff, Gen. David L. Goldfein (center), visits with Lt. Col. (Ret.) Richard E. Cole (right), the sole surviving member of the Doolittle Raiders during the 75th Anniversary of the Doolittle Raid Memorial Ceremony at the National Museum of the United States Air Force, April 18, 2017. Also attending was Jeff Thatcher (left), the son of Doolittle Raider Staff Sgt. David Thatcher, who passed away in June 2016. *U.S. Air Force Photo/ Wesley Farnsworth*

DAYTON, OHIO – On April 18, 1942, 80 men achieved the unimaginable when they launched 16 B-25B Mitchell medium bombers – without fighter escort – from the U.S. Navy aircraft carrier USS Hornet (CV-8) deep in the Western Pacific Ocean, each with a crew of five men. The plan called for them to bomb military targets in Japan, and to continue westward to land in China (landing a medium bomber on the Hornet would have been impossible). Fifteen aircraft reached China, but all crashed, while the 16th aircraft landed at Vladivostok in the Soviet Union. All but three of the 80 crewmembers initially survived the mission. Eight airmen were captured by the Japanese Army in China; three of those were later executed. The B-25 that landed in the Soviet Union was confiscated and its crew interned for more than a year. Fourteen complete crews, except for one crewman who was killed in action, returned either to the United States or to American forces.

Today, just one of the men survives: Lt. Col. Richard "Dick" E. Cole, who served as Doolittle's co-pilot on Crew Number 1. Cole, now 101 years old, returned to the National Museum of the U.S. Air Force at Wright-Patterson Air Force Base near Dayton, Ohio, April 17-18, 2017, to commemorate the 75th anniversary of the raid, and to pay tribute to fellow Raider SSgt. David Thatcher, who passed away in 2016.

Eleven B-25 Mitchell bombers were on static display on the runway behind the museum. There was a B-25 formation flyover prior to the start of a memorial service on April 18. There was also a "Missing Man" formation and finally two B-1 bombers from Ellsworth AFB flew over at the conclusion of the memorial service. In addition, there were book signings by several authors, and a special film screening on the evening of April 18th of "Doolittle's Raiders: The Final Toast."

Each year since the end of World War II, with the exception of 1951, the Doolittle Raiders held an annual reunion. The museum had the privilege of hosting the Raiders in April 1965 (23rd), 1999 (57th), 2006 (64th), 2010 (68th) and 2012 (70th), before Cole, Thatcher and Lt. Col. Ed Saylor had a final toast to their fallen comrades on Nov. 9, 2013. On April 18, 2015, Cole and Thatcher returned to the museum and were presented with the Congressional Gold Medal, which is now on display as part of the Doolittle Tokyo Raiders exhibit in the museum's World War II Gallery.

The National Museum of the U.S. Air Force is the world's largest military aviation museum. With free admission and parking, the museum features more than 360 aerospace vehicles and missiles and thousands of artifacts amid more than 19 acres of indoor exhibit space. Each year about one million visitors from around the world come to the museum (www.nationalmuseum.af.mil). ❑

Two Millionth Young Eagle Solos

Jodie Gawthrop with former EAA Young Eagles Chairman, Harrison Ford, at EAA AirVenture Oshkosh 2016.
EAA/Mike Steineke Photo

OSHKOSH, WIS. – EAA's 2 millionth Young Eagle, Jodie Gawthrop of Westchester, Illinois (EAA 1108302), completed her first solo on March 9, 2017, less than a year after her flight with former Young Eagles Chairman Harrison Ford (2004-2009).

After participating in the Civil Air Patrol's orientation program in 2013, Gawthrop fell in love with aviation and has made it her mission to take to the sky; she's even considering pursuing a military career. She credited EAA; her CFI Dave Hooper, EAA 439937; and the general aviation community at large for inspiring her to learn to fly.

Former Young Eagles Co-Chairman Jeff Skiles flew the 1,999,998th Young Eagle, Braeden Edbert, 10, of LaValle, Wisconsin, and current Chairman Sean D. Tucker flew the 1,999,999th Young Eagle, Owen Wrolstad, 13, of Oshkosh. Fred Stadler, the EAA member who has given the most Young Eagles flights at 6,500, gave the 2,000,001 flight to Annalee Wrolstad, 11, also of Oshkosh.

Career Day At SIU

CARBONDALE, ILL – United Airlines participated in the Southern Illinois University Career Day April 22, 2017, in Carbondale, Illinois. Over 100 high school students from the Chicago area, plus 25 United Airlines volunteers (mostly SIU graduates) participated. The SIU Career Day began in 1994, but was temporarily discontinued following the events of 9-11, then resumed in 2007. United Airlines paid for the flight and Transportation Security Administration screening costs. The students paid nothing and valued greatly. ❑

Aviation Technologies Signs Agreement With Chinese University

CARBONDALE, ILL. – Southern Illinois University (SIU) Carbondale's Aviation Technologies program and Shenyang Aerospace University (SAU) in China will begin an articulation agreement in fall 2018. The 2+2 project, approved by the Chinese Ministry of Education, will likely bring 50 to 60 students to Carbondale beginning in 2020. The academic concentrations will be on avionics and maintenance with a goal to recruit 150 students. Students who stay in China will receive the Shenyang Aerospace University degree; those who come to SIU will receive a bachelor's degree in aviation technologies with a specialization in avionics from SIU Carbondale. ❑

EDUCATION CONTINUED ON PAGE 62

Minnesota Seaplane Pilots Association Safety Seminar Attracts Water & Land Pilots From Throughout The Midwest

Seaplanes lined the shore at Madden's on Gull Lake, Brainerd, Minn.

A 1942-43 Howard DGA-15P Nightingale comes in for a landing.

A Piaggio Gull P136 amphibian owned by John and Lyn Mohr of Vadnais Heights, Minnesota.

A Cessna 206 taxis for takeoff.

by Dave Weiman

Under the leadership of Steve Guetter, President of the Minnesota Seaplane Pilots Association (MSPA), and its board of directors; administrative support from Cassandra Isackson and her staff at the Minnesota DOT Office of Aeronautics; knowledgeable speakers and support from

business sponsors; and the hospitality of the Thuringer family and their staff at Madden's on Gull Lake, this year's MSPA Safety Seminar in Brainerd, Minn., was bigger than ever before, attracting pilots from not only Minnesota, but also from Wisconsin, Illinois and other parts of the Midwest.

Hangar flying among some of the speakers at the Minnesota Seaplane Pilots Association Safety Seminar, May 21, 2017, at Madden's on Gull Lake in Brainerd, Minnesota: (L/R) Steve McCaughey, President of the Seaplane Pilots Association; Mark Baker, President & CEO of the Aircraft Owners & Pilots Association; Doug Rozendaal of the Commemorative Air Force, Southern Minnesota Wing; Brian Addis of Wipaire, Inc.; and MSPA President Steve Guetter.

Speakers included Cassandra Isackson, Kathy Vesely and Rachel Obermoller of the Minnesota DOT Office of Aeronautics, who described the functions of their office, airport licensing and standards, and ways pilots can be involved with their local airport…Jason Jensen of the Minnesota Department of Natural Resources, who described how the DNR uses floatplanes in wildlife management and law enforcement… FAASTeam Program Manager Kevin Morris from the Minneapolis FAA Flight Standards District Office, who quizzed and challenged participants on safe flying practices… CAF Redtail Squadron leader, Doug Rozendaal, who described how his flying has changed over the years, especially noting why flying low cross country is no longer a safe option due to the increased number of cell phone towers…Wipaire chief pilot and aviation psychologist, Brian Addis, who raised our awareness of our decision-making processes… Retired air traffic controller, Mark Schreier, who shared some of his experiences assisting pilots, especially in adverse weather conditions, and stressed the importance for pilots not to hesitate to ask for help…Steve McCaughey of the Seaplane Pilots Association, who described some of their accomplishments and growth in recent years…and Dr. Randle Corfman, President of the Minnesota Pilots Association (MPA), who briefed pilots on how best to comply with "Basic Med" requirements, and the reluctance of some physicians to conduct the examination.

(L/R) The President of the Minnesota Seaplane Pilots Association (MSPA) Steve Guetter of St. Paul, Minnesota with AOPA President & CEO Mark Baker.
Dave Weiman Photo

A record 185 people attended the banquet to hear AOPA President Mark Baker brief them on everything from "Basic Med" and AOPA initiatives to get more people flying, to a proposal by some elected officials to privatize the air traffic control system.

Exhibitors displayed their products and promoted their services. The grand prize presented at the banquet was a Lightspeed headset donated by Wipaire, Inc. Wipaire also sponsored social hours on Friday and Saturday evenings and the band at O'Madden's Pub following the banquet. Other exhibitors donated door prizes for the silent auction.

East Gull Lake Airport (9Y2)

Twenty-two aircraft flew into Gull Lake on floats, and 21 aircraft flew into East Gull Lake Airport (9Y2), located adjacent to the resort.

The weather cooperated on opening day on Friday, but was reduced to IFR when most participants departed on Sunday, which made for an interesting morning for both floatplanes and land aircraft requesting clearances. Some pilots opted to stay one more night to wait for better weather.

The 2018 Minnesota Seaplane Pilots Association (MSPA) Safety Seminar will be held May 18-20 at Madden's. The featured banquet speaker will be Jeff Skiles of "Miracle on the Hudson" fame.

Jeff Skiles

On January 15, 2009, US Airways Flight 1549, an Airbus A320-214, departed New York's LaGuardia Airport on a routine flight to Charlotte Douglas International Airport, Charlotte, N.C., but it was anything but routine. About 3 minutes into the flight at 3:27 p.m. EST, the aircraft struck a flock of Canada geese during its initial climb-out, causing both jet engines to quickly lose power. First Officer Skiles was flying at the time, but at Captain Chesley "Sully" Sullenberger's request, he gladly turned over the controls of the aircraft to him. Capt. Sullenberger initially turned back to LaGuardia, and considered landing at nearby Teterboro Airport, but soon realized that they did not have sufficient altitude to reach either airport and managed to land in the Hudson River. All 155 passengers and crew onboard evacuated safely, and were rescued by ferryboats within minutes after landing.

The incident became known as the "Miracle On The Hudson," but according to Skiles, it was not a miracle, but rather the result of good training.

Skiles will feel right at home with the seaplane pilots at the seminar, not because he helped land an aircraft on the Hudson River, but because following the incident, the Oregon, Wisconsin native obtained his seaplane rating. Skiles also co-chaired the EAA Young Eagles Program for several years with Sullenberger, worked at EAA headquarters in Oshkosh, Wis., and was featured with Sullenberger in the motion picture "Sully," directed by fellow aviator, Clint Eastwood, and starring Tom Hanks as Capt. Sullenberger, and Aaron Eckhart as First Officer Skiles.

The motion picture was based on Sullenberger's book, *"Highest Duty: My Search for What Really Matters,"* a memoir of his life and of the events surrounding Flight 1549, published in 2009 by HarperCollins, and co-authored by Jeffrey Zaslow.

Whether seaplane rated or not, the Minnesota Seaplane Pilots Association Safety Seminar is worth attending, as much of the information presented in the sessions can be applied to both floatplane flying and aircraft on wheels (www.mnseaplanes.com).

For more information on Madden's on Gull Lake, visit www.maddens.com. ❑

EPS Diesel Enlarging New Richmond Facilities As Certification Nears

NEW RICHMOND, WIS. – Engineered Propulsion Systems (EPS) Diesel expects to complete its FAA Certification process by the end of this year for their Graflight 8 diesel engine. Its work toward a Type Certificate has been layered with the process that will lead to a Production Certificate. Concurrently, EPS has been expanding its facilities. The latest addition is a two-story hangar at New Richmond Regional Airport (KRNH) in New Richmond, Wis., that adds a total of nearly 15,000 square feet to the 9,000-square foot hangar they started with. The new structure is intended to be used for engine testing and developing STCs for existing aircraft models. The facility will host state-of-the-art AC dynamometers and data acquisition systems (DAQ).

EPS also has a fourth facility that has been used for concept and conforming engine assembly. Later this year, the company will break ground for a new manufacturing building that will be set up for producing certified engines.

According to EPS Diesel, the Graflight 8 diesel engine has a range of 320 – 420 hp, will allow owners to fly cheaper, go farther, fly faster or carry more load, and fly in geographic areas lacking avgas infrastructure. With its "Flat Vee" configuration, the engine will fit many legacy single or twin-engine aircraft (www.eps.aero). ❑

As The Geese Migrate, So Must The Seaplanes!

Returning home from a three-week seaplane trip to Alaska, Philip Mattison pulls in a Lake Trout on Great Slave Lake at Lutselke in the North Slave Region of the Northwest Territories in Canada.

Wolfgang Greiner Photo

Cherry Pocket Fish Camp on Lake Pierce, Lake Wales, Fla.

by Philip Mattison

I met Brian Schanche, the owner of Adventure Seaplanes, 20 years ago when I responded to a want ad in the newspaper about seaplane rental. Do you remember the want ads?

The day I got my seaplane rating, and then rented one of Brian's planes, changed my life forever. I rented his Super Cub and made my first solo flight to my home on Forest Lake in Forest Lake, Minnesota. That evening I picked up my wife, Kathleen. The sunset flight was at 1500 feet into light winds above the lake with the power pulled back and the windows open. The little Cub seemed to just hang there not moving! From the backseat Kathleen whispered into my headset, "This is fantastic! Can we get one of these?" I responded immediately, "How much would you like me to spend?"

Our first seaplane was a yellow and black 1999 Cub Crafters 2,000 pound Super Cub. I flew it all over the lake country in the Midwest. Brian, flying his now famous yellow and blue Cessna 185, and I in my yellow Super Cub, made the first of many Adventure Seaplanes Arctic Circle trips, together. He had two adventurous, land-based pilots from Arizona flying with him, and I had my best buddy, Wolfgang, flying with us in his red and white Husky.

I soon became a seaplane and bush flight instructor so I could provide instruction and guidance on flying these seaplane adventures with Brian. Brian has a steady flow of land-based pilots who are looking for the flying adventure of a lifetime. Together, we have visited many fish camps throughout Canada and have flown low over hundreds of polar bears. We've floated the mouth of the Churchill River with our friend, Wally, who owns the Lazy Bear Lodge, looking at beluga whales, polar bears and even the occasional killer whale.

Of course, we have caught hundreds and hundreds of fish! Many are world class, such as Arctic Char, Lake Trout, Northern Pike, Walleye, and Grayling. Most of all, I like flying long, low, cross-country flights with a group of seaplanes and their pilots. Managing the landing locations, fueling, bad weather, and the occasional adversity is fantastic and part of the experience.

I think the adversity is what really makes the adventures stick out in my mind. Imagine waking up in the morning to find fresh tracks from an Arctic Wolf all around your tent. We've been chased away from our lunch as a bear came into camp, then watched from a boat 20 feet away as it ate our freshly cooked fish and rummaged through our gear. This is something you will tell your grandkids someday, I thought to myself.

Having the exhaust pipe blown off a cylinder when a hot start goes wrong in the middle of a mid-lake refueling stop in the subarctic, brings out the MacGyver in the group. It is simply amazing the repairs that can be made with a

Flight student, Wayne Baxter, following a perfect landing enroute from Surfside Seaplane Base in Lino Lakes, Minn., to Cherry Pocket Fish Camp, Lake Wales, Fla.

bent trolling spoon, a hose clamp, some safety wire and the aluminum from a can of Canada's Famous Blue Beer! That repair allowed this plane and pilot to finish the last 1,000 miles home from the Arctic Circle.

But then comes winter! The planes of the north country get all snuggled in their hangars only to awaken on those clear, warm winter days. Preheating the plane and wearing boots, gloves, warm coats and blankets are the most important tools of the Midwest pilot. But, where do the seaplanes go?

Every spring and fall, a few intrepid pilots contact Adventure Seaplanes and join the migration. Yes, the geese and the seaplanes fly south for the winter. Each fall, Adventure Seaplanes moves three to six of its aircraft from its operations in Minnesota, south to Lake Wales, Florida. The rental planes and the flight school make their winter home at the Cherry Pocket Steak and Seafood Shak and Fish Camp on Lake Pierce. We fondly refer to it as the "Red Neck Riviera." This part of old Florida is not like either coast with its massive crowds of tourists. This is the edge of swamp country, south of Kissimmee. The area is about fresh water flying, fishing, air boats, and alligators.

It is a beat up central Florida fish camp with dense Spanish moss hanging from the trees. The restaurant's main feature is the Tiki topped boat bar. The sign on the railing says "Don't feed the gators." The service is great, and the food is fantastic and ranges from fresh gator to raw oysters and burgers. There is live music at the end of the week. The customers range from hardcore bikers, to casually dressed senior citizens, and of course, the seaplane pilots fit right in; seaplanes are like bikes with wings.

The seaplanes at Cherry Pocket line the shore waiting for a different kind of adventure: flying low and slow over the vast swamps and canals, looking for gators and earning a seaplane rating.

The spring and fall migrations, and the Churchill and Arctic Circle trips, are the Crown Jewels of Adventure Seaplanes. Woody Minar and I led this year's Minnesota to

Flight student Wayne Baxter did more than fly the Super Cub from Minnesota to Florida – he was also the "MacGyver" on the trip in making needed repairs.

Florida migration. My student, Wayne Baxter of Lake Wales, Florida, was flying his first seaplane cross country. Wayne had a grand total of 20 hours of Cessna 172 wheel aircraft time in his logbook. This 58-year-old student pilot didn't even have his private pilot certificate finished yet! You should have seen his excitement as he flew between the bluffs and low and slow over the Mississippi River southbound on the first day. Seeing the massive flocks of ducks, dipping our wings to the late season fisherman, and inspecting the huge locks and dams as we flew in formation with another Cub and a Cessna 172, is an amazing introduction to the world of flying floats.

Wayne, being from Florida, was familiar with Adventure Seaplanes. He learned about the migration a few years ago when he was at the Cherry Pocket when AOPA President & CEO Mark Baker arrived in his Beech 18 on straight floats, along with the rest of that year's migration. When Wayne called and asked if he could ride along on this year's migration, he never imagined the true nature of the adventure or that to his surprise and delight, he would log every bit of the three days and 16 hours in the front seat of the Super Cub as the sole manipulator of the controls.

Wayne was the MacGyver on this trip. He is very mechanically skilled and came to the rescue as he diagnosed a starter failure at a refueling stop on a beach on Rend Lake in southern Illinois. We normally land and transfer fuel stored in fuel containers carried in the floats to the wings several times on the 1200-mile trip. Some local boats from the Rend Lake Marina in Benton, Illinois, came to our rescue. They towed our distressed plane into the marina, tying it up in a slip for the night, and a few phone calls later, we had hotel rooms

for the night, and parts and a mechanic were arriving in the morning.

The weekend inhabitants of the marina thought this was a great excuse for an end-of-season party. The next thing we knew there was food, beer, whiskey, stories, and laughter being shared with our new friends. They even took us to our hotel that evening and picked us up the next morning. This was so unique to have three airplanes docked at the marina, that the local newspaper sent two reporters out to interview us.

That morning, Wayne balanced over the water on planks spanning the floats as he helped remove and replace the prop, the cowling, and finally the starter. Soon the hard work was completed and we were airborne by noon—after our hosts brought us catfish lunches.

Halloween night we landed right at dark at the seaplane base in Guntersville, Alabama (8A1). The airport manager and two local seaplane pilots hosted us to a fantastic dinner party at their favorite local restaurant.

Then another long day of flying and a few more fuel stops, including one in the mouth of the Suwannee River where it dumps its muddy water into the Gulf of Mexico. We just happened to dock along a seawall at a home to a former Air Force pilot and former pilot for John Travolta. Finally we raced the setting sun as we lined up for the Cherry Pocket approach that evening. Wayne made a fantastic approach, low and slow over the top of the trees, pitch down toward the big Florida Lilly pads, then raising the nose as the Cub gently settled onto the water.

As we taxied to the beach, some of the Red Neck Riviera's finest were greeting us in their golf carts with fresh beers. After we tied up the planes, Ken, who flew with Brian in his C185, called his wife from the Tiki bar and said, "Sell everything! We are moving to Cherry Pocket!" We all celebrated the great adventure as a "whiskey front" slowly moved in and we forgot about the freezing cold water back home in Minnesota.

If you have ever dreamt of flying off the grid and experiencing the forgotten ways of the bush pilot, come get a seaplane rating at Cherry Pocket in south central Florida this winter or next spring at Surfside Seaplane Base (8Y4) in Lino Lakes, located on the eastern edge of Anoka Couty-Blaine Airport's Class D airspace near Minneapolis. Why not consider flying a Canadian fishing trip or fly the migration each spring and fall? I can tell you from my experiences, a seaplane rating could change your life!

For additional information, contact Brian and Lori Schanche at Adventure Seaplanes. You can find them at www.adventureseaplanes.com or call them at 612-868-4243 or 612-749-1337. Watch their videos on YouTube and Facebook. They have a regular Facebook feed called "Where The Seaplanes Are." Just search Adventure Seaplanes and you will find them. When you call, tell them Phil and Woody sent you! ❑

Aeronautics Report

Wisconsin Bureau of Aeronautics
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Understanding Airport Light Systems

by Hal Davis
WisDOT Bureau of Aeronautics


Hal Davis

Unless you regularly find yourself flying into large airports at night or during inclement weather, chances are there are a number of airport lights you've heard of, but never seen in person. For those of us who have the luxury of flying primarily on sunny days, a review of airport lights may then be helpful. This article will cover the various runway lights, taxiway lights, and runway status lights. Watch for the next issue of *Midwest Flyer Magazine* for a review of the remaining airport lights in what will be the final article in this series on airport navigation aids.

Runway Lights

To start, runway lighting systems are classified as high, medium or low intensity runway lights or HIRL, MIRL, and LIRL respectively. HIRL and MIRL systems have variable intensity controls, typically controlled by air traffic control (ATC) or the pilot using a radio control system. LIRL systems on the other hand usually only have a single intensity setting.

Runway edge lights are designed to help pilots distinguish the edge of the runway. These lights are offset from the physical edge of the runway pavement by 10 feet for runways serving jet aircraft, and 2 feet for other runways. Runway edge lights emit white light; however, on a runway with an instrument approach, runway edge lights emit a yellow light to notify pilots they are approaching the runway end for the last 2,000 feet or last half of the runway, whichever is less.

Runway threshold/end lights are used to identify the runway threshold/end. To do so, a green light is emitted outward from the runway for arriving aircraft, while a red light is emitted toward the runway to indicate the end of the runway for departing aircraft.

White centerline lights are installed at 50-foot intervals along the runway centerline to help pilots with alignment during approach, landing and takeoff. Much like the runway edge lights, centerline lights also change color to warn pilots of the impending runway end. Alternating red and white lights are installed 3,000 feet from the runway end, while all red centerline lights are installed for the last 1,000 feet.

Touchdown zone lights are installed on some precision approach runways to indicate the touchdown zone during landing. These lights consist of two symmetrical columns of light bars emitting white light and spaced on each side of the runway centerline. The two columns of lights extend for one-half the runway length or 3,000 feet, whichever is less.

Taxiway Lights

Much like their runway counterparts, taxiway edge lights are used to outline the edges of taxiways and aprons. Taxiway edge lights are located parallel to the taxiway centerline, not more than 10 feet from the edge of the usable taxiway. In straight sections, taxiway edge lights are typically spaced between 50 and 100 feet depending on the length of the straight section. On curves, taxiway edge lights may be spaced more closely together. As an economical alternative, some airports may use blue reflectors in lieu of or to augment taxiway edge lights.

Taxiway centerline lights emit a steady green light and are logically located along the taxiway centerline. The frequency of the centerline lights depends on the curvature of the taxiway. In those areas where the taxiway centerline leads on/off a runway or into an instrument landing system critical area, the taxiway centerline alternates between green and yellow, beginning from one light beyond the runway holding position marking to the runway centerline.

Safety Focus

Much like airport markings, the advancement in airport lighting has focused on making taxiway/runway intersections more conspicuous to prevent runway incursions. The alternating green and yellow taxiway centerline marking is one such example. Runway guard lights are another.

There are two types of runway guard lights, elevated and in-pavement. Elevated runway guard lights consist of a pair of elevated flashing yellow lights installed on each side of the runway holding position marking. In-pavement runway guard lights consist of a row of alternately illuminated, unidirectional yellow lights located 2 feet prior to the holding side of the runway holding position marking. To ensure the

runway guard lights are not obscured by snow, both types of runway guard lights are often installed here in the Midwest. In warmer parts of the country, only one type of runway guard light is typically used.

During periods of low visibility, some airports will implement a surface movement guidance control system. As part of this system, stop bar lights are used to further enhance taxiway/runway intersections. These lights are used by ATC to provide pilots a visual cue for when they are clear to enter or cross an active runway. A stop bar consists of a row of steady red, unidirectional lights, as well as a pair of elevated steady red lights on each end. Stop bar lights are generally located with the runway guard lights. Following clearance to enter the runway, ATC will turn off the stop bar and turn on the taxiway centerline lead-on lights. Pilots should never cross an illuminated stop bar, even if ATC has provided clearance. Instead, notify ATC that the light bar remains illuminated.

Similarly, a clearance bar consists of a row in-pavement, steady burning yellow lights at a low visibility hold point, also typically associated with a surface movement guidance control system. A low visibility hold point consists of a taxiway holding position marking, geographic position marking and a clearance bar. Check out the February/March 2017 issue of *Midwest Flyer Magazine* if you missed my overview of airport markings, including the taxiway holding position marking and the geographic position marking. Pilots should hold at this location as instructed by ATC.

Runway Status Lights

The most recent airport lighting innovation is the deployment of runway status lights (RWSL). As of 2017, 20 U.S. airports have operational RWSL systems. Included are three airports in the Midwest: Minneapolis-St Paul International Airport, Chicago O'Hare International Airport, and Detroit Metropolitan Wayne County Airport. Through the use of surveillance equipment, runway status lights are able to automatically detect traffic on a particular runway and relay that information to pilots and vehicle operators in real-time via a series of lights. The system is currently comprised of two subsystems – the runway entrance lights (REL) and the takeoff hold lights (THL).

The REL system consists of a series of in-pavement, steady red lights which follow the taxiway centerline and extend from the runway holding position marking to the runway edge. When illuminated, the lights indicate that there is traffic detected on the runway moving at a speed of at least 30 knots or on final approach within 1 mile of the threshold. As the detected traffic approaches the intersection, the lights will extinguish three to four seconds before the aircraft reaches the intersection. This allows ATC the opportunity to expedite clearances based on anticipated separation.

Whereas the REL system is located at runway/taxiway intersections, the THL system is located on the runway itself extending 1,500 feet from the "line up and wait point." Like the REL, the THL consists of steady red lights in symmetrical pairs with a light on each side of the runway centerline. The THL system illuminates when it senses the presence of another aircraft or ground vehicle on the runway or about to enter the runway.

Should you encounter a RWSL system, it's important to remember the system is independent of ATC and therefore not a substitute for an ATC clearance to cross, takeoff from or land on a runway. If ATC gives verbal clearance which contradicts the status lights, continue to hold and notify ATC.

Find Out More!

To find out more about airport lights, check out Chapter 2 of the FAA's Aeronautical Information Manual or Advisory Circular 150/5340-30H. ❑

Register Now For The WisDOT Airport Operations & Land Use Seminar

Each fall, the Wisconsin Department of Transportation Bureau of Aeronautics (BOA) holds a two-day Airport Operations & Land Use Seminar for the people responsible for managing our state's airports. The 2017 Airport Operations & Land Use Seminar will take place Tuesday, October 24th and Wednesday, October 25th at the Holiday Inn and Convention Center in Stevens Point, Wisconsin.

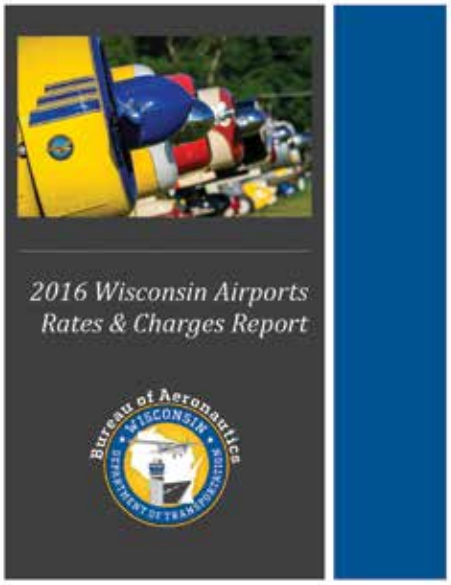
The 2017 seminar will include sessions from the BOA, Federal Aviation Administration (FAA), Aircraft Owners and Pilots Association (AOPA), National Weather Service, and others!

We invite all airport managers, airport owners, airport committee members and anyone else who has a hand in managing an airport to attend. There's no better opportunity for interacting with FAA officials, BOA staff, airport consultants and other airport managers, all in one place.

For more information about the seminar or to register, visit **http://wisconsindot.gov/Pages/doing-bus/aeronautics/trng-evnts/opslu-sem.aspx**. For any questions regarding the seminar, contact **Hal Davis** at **608- 267-2142** or email **howard.davis@dot.wi.gov**.

\Hope to see you there! ❑

Updated Wisconsin Airport Rates & Charges Report Now Available!



The Airport Rates & Charges Report for calendar year 2016 is now available. Each year, the Wisconsin Department of Transportation Bureau of Aeronautics (BOA) surveys those airports within the State Airport System Plan for information relating to airport rates and charges, budgets, and related activities. Information, such as fuel prices, hangar rental rates and lease rates can be found in the report. The survey results serve as a comparative tool to help airports gauge financial practices and needs. Pilots, consultants and other users of Wisconsin airports may also benefit from the data collected.

The report and raw data are available for download on the BOA website at: **http://wisconsindot.gov/Pages/travel/air/airport-info/rates-charges.aspx**.

Questions regarding the survey and report should be directed to the Wisconsin Department of Transportation BOA by calling **608- 266-3351**. ❑

Fly Wisconsin!

Mark your calendars, top off the tanks, and check the weather, it's time to Fly Wisconsin!

After much anticipation, the Wisconsin Department of Transportation Bureau of Aeronautics and the Wisconsin Airport Management Association have teamed up to bring an airport passport program to Wisconsin.

Starting September 1, 2017, pilots and their passengers may begin earning awards by flying into Wisconsin airports, attending FAA safety seminars, and visiting Wisconsin's aviation attractions.

To find out more and to register, visit: **www.wisconsindot.gov/flywi**. Mail-in registration cards can also be found at your local airport. ❑

Airport Restaurant Sponsors Northern Wisconsin Fly-In & Airshow

Mike Weinfurter and his Cessna L19 Bird Dog.

Grant Nielsen and his CAP 232.

Airboss, Darrel Massman.

(L/R) Duane and Bonny Grube of Harbor View Pub & Eatery, congratulate airshow performer, Dave Scott of 1st U.S. R/C Flight School, on a great performance.

Airshow announcer Brittany Nielsen

The Harbor View Pub & Eatery, located across from Price County Airport in the northern Wisconsin community of Phillips (KPBH), sponsored a fly-in brunch, lunch and airshow Fourth of July weekend. The event began with an airshow Friday evening, June 30, 2017, with the main event at 11:00 a.m., July 1. Dinner and refreshments were served prior to and following the Friday evening show; and breakfast, brunch and lunch were served prior to, during and following the airshow on Saturday. The Harbor View Pub & Eatery also hosted "Lake, Rattle & Roll" Saturday evening with dinner and live entertainment. The airshow was free to the public, and brunch was free to all pilots who flew in.

Featured airshow performers included Grant Nielsen of New Richmond, Wis., who performed in his CAP 232; Dave Scott of Shawano, Wis., who performed in his Pitts S1S; and Mike Weinfurter of Rhinelander, Wis., who did everything but aerobatics in his Cessna L19 Bird Dog. Darrel Massman of Waupaca, Wis., was air boss; Brittany Nielsen of New Richmond, Wis., announced the show from the airport; and Jeff Overby of Phoenix, Arizona, announced the show from the Harbor View Pub & Eatery. Helicopter rides were also available.

In addition to fly-in aircraft at the airport, floatplanes were encouraged to fly in to the Harbor View Pub & Eatery on Long Lake. Duane and Bonny Grube own the Harbor View, which is open 7 days a week from 10:30 a.m. until midnight.

For pilots looking for an up north get-away on a lake, near an airport, Harbor View has a three-bedroom, four-season cottage for rent on the Long Lake chain of lakes, 100 yards from the restaurant. For additional information, call 715-492-4134 or 715-492-5914.

Aviation groups interested in flying in for lunch or dinner at the Harbor View Pub & Eatery are encouraged to call in advance: 715-339-2626 (www.harborviewonline.com). Self-service 100LL, Jet A and Mogas fuel is available at Price County Airport (www.pricecountywi.net). ❑

MINNESOTA AERONAUTICS BULLETIN
www.dot.state.mn.us/aero
The State of Minnesota provides this Technical Bulletin in the interest of Aviation Safety and to Promote Aeronautical Progress in the State and Nation.
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We can't wait...

by Cassandra Isackson
Director, Minnesota DOT Office of Aeronautics


Cassandra Isackson

Your Office of Aeronautics is a strong supporter of four specific disciplines – science, technology, engineering and mathematics (STEM) in our schools. These areas of study and mastery are vitally important to the aviation industry and its future. That is why it is so important that we help our schools with guiding our youth toward involvement in STEM programs.

No doubt you have heard about the pilot shortage in the U.S. and in fact, globally. But did you know there is also a forecasted shortage of trained technicians, mechanics, aviation and space engineers, and scientists? In a recent report produced by Boeing Aircraft Company, they say that in the next 20 years, there will be an industry need for 39,600 airplanes. And these are *just* the airliners and large capacity cargo aircraft! Now think of the number of people and the number of General Aviation aircraft that will be needed to help fulfill that demand.

The Boeing report says, *"Between now and 2035, the aviation industry will need to supply more than two million new commercial airline pilots, maintenance technicians, and cabin crew."*

Specifically, the report states that *"617,000 new commercial airline pilots, 679,000 new maintenance technicians, and 814,000 new cabin crew will be needed to fly and maintain the world fleet over the next 20 years."*

Where will they come from if we do not start immediately to guide and train our youth in the STEM disciplines? And the above figures are just for the airlines. Where will the military and corporations get pilot recruits? That's right, GA! That's why it is so critically important to introduce young people to aviation and to the STEM disciplines.

While we continue to support schools and youth with programs that are STEM based or STEM inclusive, like ACE Camp, and the Aerospace Teachers Workshop, the question remains, what can you do to help? Well, every year in Minnesota we have dozens of airshows, fly-ins, and fly-in pancake breakfasts. You can help introduce young people to aviation by taking them with you to the airshows and fly-ins.

These are tremendous opportunities to not only share aviation with young people, but to securely plant the seed in them that will grow and guide them to STEM-based careers in the aviation industry. There are many career fields in the aviation industry that are in need of fresh young minds with dreams of the possibilities for the future.

Take a look at the article in this edition of the Tech Bulletin about "airshows," written by our Chief Pilot Jeff Flynn. Let that article be another motivational reason for you to help get youth involved in the aviation industry and in their STEM education. Take a young person to an airshow, a fly-in, or a pancake breakfast at a local airport. The result will be a win-win outcome for the students, the industry, and the nation. ❑

General Aviation Accidents

According to the National Transportation Safety Board (NTSB), in 2016

"While airline accidents have become relatively rare in the United States, pilots and passengers involved in general aviation operations still die at alarming rates. Between 2008 and 2014, about 47 percent of fatal fixed-wing GA accidents in the U.S. involved pilots losing control of their aircraft in flight, resulting in 1,210 fatalities. Pilots can reduce these accidents through education, technologies, flight currency, self-assessment, and vigilant situational awareness in the cockpit." ❑

The Value of Aviation In Minnesota

* General Aviation has a $12.2 billion impact on the State of Minnesota through its network of 135 public airports.

* General Aviation has created 164,900 jobs in Minnesota, and provides more than $6.5 billion in labor income annually.

* General Aviation contributes more than $150 billion to the U.S. economy annually and employs more than 1,265,000 people, nationally.

* In the U.S., General Aviation aircraft fly almost 24 million hours and carry 166 million passengers annually.

* There are nearly 4,000 paved General Aviation airports open to the public in the U.S., while scheduled airlines serve about 500 airports nationwide.

* Over two-thirds of all the hours flown by General Aviation aircraft are for business purposes, and General Aviation is the primary training ground for most commercial airline and military pilots.

Note: There are **6,306** registered aircraft in the state of Minnesota (2016 data). ❑

Airshow Thoughts

Blue Angel #2


C-17

by Jeff Flynn

Most pilots would give their left aileron to fly in a Blue Angels jet. However, we all realize that the price of admission is much, much, higher. It takes years of training, dedication, and sacrifice. Yet, what did I see at a recent airshow practice? That's right, someone sitting in the back seat of Blue Angel #2. How does this happen? Is there some kind of Top Gun lottery?

As far as I could tell, Blue Angel #2 is the only jet in the performance team that has a second seat. I get that the Blues give demo rides to various dignitaries and media representatives when they come to town – normally in Number 7. But during a no kidding performance! Sign me up.

I can just imagine what the preflight briefing would sound like. "Alright Jeff, we have three rules: First, if you feel the need to see your lunch again – here is a bag – keep it to yourself. I'll be flying 36 inches off of the Skipper's wingtip and I need to focus. Second, do you see all of those buttons and switches? Good. Don't touch anything. Third, if I say Eject, Eject, Eject, GET READY, it's going to get very loud and very windy."

This scene got me thinking about the best way for us mere mortals to view an airshow. Obviously, being in the backseat of Blue Angel #2 is unrealistic for most, so here is my list of some of the best ways to see an airshow:

1) Buy a ticket.

2) Be a performer.

3) Be a volunteer (great parking and practice day is like watching a personal airshow).

4) Attend as a vendor (same benefits as a volunteer, but you may get some business out of it, too).

5) Static aircraft display crewmember.

Whatever you do, please try to bring a kid with you and let them feel the inspiration that comes from attending these magical events. Also, spend some time thanking the members of our Armed Services who not only participate in the airshows, but protect us every day. ❑

Minnesota Aviation Hall of Fame Inducts Six Aviators

BLOOMINGTON, MINN. – The Minnesota Aviation Hall of Fame (MAHF) held its 28th Annual Hall of Fame Induction Banquet at the Hyatt Regency Hotel in Bloomington, Minnesota, April 22, 2017. The awards ceremony was emceed by popular radio personality, Al Malmberg, host of WCCO Radio's "World of Aviation."

Inducted were James H. Brodie, inventor of a unique "trapeze system" of utilizing small liaison aircraft aboard ships for submarine patrols during World War II; Edward J. Chapman, military pilot, airline pilot, and record-holding balloon pilot; Alvin D. Grady, historian, U.S. Air Force retired, Duluth Airport Authority Chief Accountant, and 148th Fighter Squadron budget analyst; Bruce D. Jaeger, owner of Jaeger Aviation, past owner of Willmar Air Service, and a specialist in Mooney aircraft; Major General Robert S. Peterson, World War II Flying Tiger, fighter pilot in Korea and Vietnam, and member of the Metropolitan Airports Commission; and Brig. General George L. Schulstad, 26 years a U.S. Air Force fighter pilot, and an exchange pilot with the U.S. Navy during Vietnam. In addition to the induction awards, the Minnesota Aviation Hall of Fame presented the "Best Aviation Writing Award" by a Minnesotan to Sam Weigel, a columnist for *FLYING* magazine. ❑

2017 Minnesota Aviation Hall of Fame inductees (L/R): Frank Huber, accepting for James Brodie; Ed Chapman; Bruce Jaeger; Rose Ann Grady; Brig. Gen George Schulstad; and Robert L. Peterson, accepting for Brig. Gen Robert Peterson. *Dave Weiman Photo*

Minnesota Aviation Hall of Fame Announces 2018 Inductees

BLOOMINGTON, MINN. – The Minnesota Aviation Hall of Fame board of directors have selected six aviators to be inducted at its 2018 ceremonies to be held April 21, 2018 at the Hyatt Regency Hotel in Bloomington, Minnesota.

Inductees will include Darrell E. Bolduc, aircraft engine specialist, seaplane pilot, educator and leader within the Minnesota aviation industry. Darrell Bolduc and his father, Wilmer, who was inducted in 2002, are the first father and son to be inducted.

Roland J. "Ron" Fagen, aerobatic pilot, prominent ethanol production businessman, Vietnam veteran, and aviation museum owner in Granite Falls, Minnesota, will also be inducted, as will Lt. Ralph D. Gracie, World War I fighter pilot and casualty, the first Minnesotan lost in aerial combat; Robert H. Jasperson, Vietnam air war veteran, F-4 Phantom weapons systems operator, and current Wings of the North museum director; Joseph E. Kilpatrick, who led the Honeywell team that developed the Ring Laser Gyro, among other navigational instruments used worldwide in today's commercial and military aircraft, as well as the Space Shuttle; and popular fixed base operator, Robert O. Leaders of Clear Lake, Minnesota.

Registration information will be announced in January on the Minnesota Aviation Hall of Fame website: www.mnaviationhalloffame.org, and in future issues of *Midwest Flyer Magazine*.

Faribault Municipal Airport Renamed Liz Wall Strohfus Field

FARIBAULT, MINN. – The Faribault City Council renamed Faribault Municipal Airport "Faribault Municipal Airport - Liz Wall Strohfus Field" in memory of World War II Women Airforce Service Pilot (WASP), Elizabeth Wall Strohfus.

The dedication ceremony was held Saturday, June 24, 2017. To learn more about Elizabeth Wall Strohfus, go to www.midwestflyer.com and type in the name "Strohfus" in the search box. ❑

Online Registration Open For 2017 Skydiving Hall of Fame

ROCHELLE, ILL. – Registration is now open for the 2017 International Skydiving Hall of Fame Celebration, September 21 – 23, at Chicagoland Skydiving Center (CSC) in Rochelle, Illinois. The annual weekend fundraiser of jumping, celebration, catching up with old friends and making new ones, and chatting with skydiving's legends, has become the go-to event for the skydiving community. Online registration is now available at Online Registration.

After a weekend of skydiving activities, the International Skydiving Hall of Fame Induction Ceremony will take center stage continuing the tradition of honoring skydiving legends, leaders and pioneers. This year's inductees include Richard "Buzz" Bennett of Gibsons, BC, Canada; Roy C. Johnson (posthumous), formerly of Cape Coral, Florida; General John "Jack" Singlaub of Franklin, Tennessee; Graeme K. Windsor of Canberra, Australia; and Pat Works (posthumous), formerly of Fullerton, California.

More than 300 skydiving enthusiasts from around the world will be in attendance at the fundraiser, which is expected to raise more than $100,000 for the museum.

For more information about the International Skydiving Museum & Hall of Fame, visit www.skydivingmuseum.org or contact museum administrator, Nancy Kemble, at 540-604-9745 or nkemble@skydivingmuseum.org. ❑

WATA Difference

WISCONSIN AVIATION TRADES ASSOCIATION

Eagle River Hosts Field Trip For Pre-K Kids!

EAGLE RIVER, WIS. – Rob Hom, airport manager at Eagle River Union Airport in Eagle River, Wisconsin, welcomed children of Northland Pines Elementary School Pre-Kindergarten and their families to the airport on May 26, 2017 for an annual fieldtrip. The children watched airplanes take-off and land, looked inside of airplanes, toured the terminal building and flight planning room, explored the Civil Air Patrol hangar and its Cessna 172 Skyhawk, got up close to a corporate jet and Hom's own 1946 Taylorcraft BC12D, and of course, visited the maintenance shop with all of its large snow removal equipment. "Big trucks with big tires are always impressive to 4 and 5-year-olds," says Hom. The field trip has been an annual event for five years (www.erairport.com). ❑

Wisconsin Aviation Celebrates 36 Years In Business

WATERTOWN, WIS. – Wisconsin Aviation, Inc. is celebrating 36 years in business in 2017, and they started during difficult times. Interest rates were at 21 percent in 1981, and the country was facing one of the worst recessions ever. But two years later in 1983, Wisconsin Aviation was growing, it opened its second operation at Dodge County Airport in Juneau, Wisconsin, and on January 1, 1994, the company bought Four Lakes Aviation on the east ramp at Dane County Regional Airport in Madison, Wis., and Coldstream Aviation on the south ramp a year later. In 1998, Wisconsin Aviation added avionics at Madison, and interior repair and installation at Watertown. In December 2002, Wisconsin Aviation dedicated its new $2.5 million, state-of-the-art general aviation terminal in Madison, and in 2008, Wisconsin Aviation added a new avionics hangar in its technical services complex.

Today, Wisconsin Aviation is capable of providing a complete line of aviation-oriented services to include private aircraft charter, corporate aircraft management, aircraft maintenance, avionics, aircraft rental, aircraft sales and flight training from Private Pilot through the Airline Transport Pilot Certificate. Aircraft hangar rental and fueling services are available at all three locations. ❑

William T. Piper Scholarship Recipient Selected

VERO BEACH, FLA. – Piper Aircraft has announced that Vero Beach High School senior, Lorena Molina of Vero Beach, Florida, has received the annual William T. Piper Scholarship.

For more than 20 years, the William T. Piper Scholarship has been offered annually to a graduating high school senior. Today, the scholarship is available to a graduating senior of Vero Beach High School, Sebastian River High School, or Indian River Charter High School in Florida.

The scholarship award is for $1,000 per year and is renewable for up to four years. Applicants must demonstrate strong academics, exhibit leadership abilities, be able to show involvement in the community, and have extra-curricular activities. Additionally, applicants must submit an essay describing their greatest success in life thus far. ❑

Students Experience Principles of Flight At Minnesota High School

by Roger Bovee

To invent an airplane is nothing. To build one is something. To fly is everything." *Otto Lilienthal*

St. Michael-Albertville (STMA) high school students in St. Michael, Minnesota, understand Otto Lilienthal's words more than most students. STMA's Aviation Program follows this statement quite accurately as students learn about aviation in the two courses offered: Aviation 1 and Aviation 2.

"To invent an airplane is nothing."

The history of the airplane from idea to flight is taught early in the Aviation 1 course to give students the perspective of the early pioneers of aviation, such as Leonardo da Vinci, the Montgolfier Brothers, Sir George Caylee, Otto Lilienthal, and the Wright Brothers. When learning about the accomplishments of Caylee and his flying tub, students are often surprised to learn that a flying apparatus existed 54 years prior to the Wright Brothers' historic flight, which was piloted by a 10-year-old boy!

Cody Schoen and Vince Barthel work on their radio-controlled airplane for Aviation 2. The Caterpillar-themed airplane was the best flying airplane in the history of the Aviation 2 class at St. Michael-Albertville High School, St. Michael, Minnesota.

Hands-on education is stressed in STMA's Technical Education Department and the Aviation classes are no exception. The first project in the class is to design and test an airfoil in the wind tunnel. Students sketch airfoil shapes, cut from balsa sheeting and use cyanoacrylate (super glue) to assemble wing sections. After the wing sections are covered by tissue, they are tested in the wind tunnel for lift efficiency. Prior to this activity, the instructor shares many stories regarding exacto knife and super glue incidents from past classes in order to avoid possible mishaps.

Caterpillar Airplane

Sam Gilsrud in Aviation 2 checks his flight controls before takeoff.

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STMA Aviation Program students enjoy a field trip to the Minnesota National Guard's St. Cloud Army Aviation Support Facility at St. Cloud Regional Airport in St. Cloud, Minn. (KSTC). Students got to see the UH-60 Black Hawk and Chinook helicopters up close and learn from the pilots who fly them, and the aircraft technicians who maintain them.

Regardless, their inexperience using super glue will cause some students to 'get attached' to their projects. While the students think they are recreating the Wright Brothers' airfoil design research, the instructor has a hidden objective: teach students how to build a model with exacto knives, balsa, tissue, and super glue.

(L/R) STMA student, Sam Gilsrud, learns the finer aspects of the rotor system of a Black Hawk helicopter from a National Guard aircraft maintenance specialist.

"To build one is something."

With their newly found model building skills, students are ready to construct a rubberband-powered balsa airplane. To assist in the build process and provide a foundational design for a possible successful flight, the instructor provides airplane plans complete with laser cut ribs and formers. The airplane project gives students the opportunity to observe the four forces of flight: lift, thrust, drag, and weight, and how they affect each other. The design allows for students to adjust the wing placement for a perfectly balanced airplane. In addition, students need to incorporate a downward force on the empennage to create inherent longitudinal stability. For lateral stability, students need to incorporate an effective dihedral. Straight and level is the goal, and the best airplanes to accomplish this goal are built with acute attention to detail, due diligence, and patience.

"To fly is everything."

Fly day consists of reserving the gymnasium for a flight from the top of the bleachers to the other side. Grading is based on distance traveled across the gymnasium. To achieve the best grade, students need to have the aircraft finely tuned for the straightest and most level flight possible. Students are reminded that as soon as the airplane leaves their hand, it relies on their efforts to tune and adjust the flight controls for a straight and level flight. The reward can be large for the best flights as students can earn significant extra credit for reaching the bleachers on the other side. While students are naturally competitive with each other, the class always cheers the loudest when an aircraft gently powers through the air in a glide ratio that flies to victory!

After the excitement of fly day has passed, students finish the trimester learning about general aviation topics related to becoming a private pilot. They study airport markings and layout as they draw an airport diagram. Included in the drawing, students must have accurate runway numbers in reference to a north symbol, runway markings for instruments, a crosswind runway, taxiways, a windsock, a PAPI/VASI, and all legs of a traffic pattern. A sectional chart reading exercise has them learning latitude and longitude, determining headings and distances with a plotter, and identifying airport information and other chart symbols. Students also practice flight planning and get a quick lesson in airspace as they prepare for a real flight… virtually speaking. Flight simulation provides students the opportunity to fly cross country from Bemidji (KBJI) to Brainerd (KBRD) to Duluth (KDLH) and back to Bemidji. A quick preview of the sectional gives them some pilotage information for the flight and they rely on their newly acquired plotting skills for dead reckoning.

Roughly one half of the students enrolled in Aviation 1 enroll in the Aviation 2 course. This course focuses on

one task: building a radio-controlled airplane from scratch. After a few remedial presentations on aerodynamics and stable flight control characteristics, students work in pairs to begin the arduous journey of building a radio-controlled airplane. Similar to the rubberband-powered airplane, a few items are provided, such as the airfoil, fuselage formers, and basic plans. Students are given lessons on radio-controlled radio systems operation, LiPo battery safety, electric motor/speed controller functioning, and servo linkage connection. Given this introductory information and basic part supplies, students are left to problem solve the final aspects of design, such as radio installation structure, battery compartment access, engine cowling and paint scheme.

Since most of the students enrolled in this class are seniors and have taken various technical education classes, the technical skills of these students are excellent. Some students design the paint scheme with CorelDraw and cut stencils using the laser cutter. Other students use the 3D printer to design engine cowlings or canopies, and some braze wire together for lightweight landing gear. One group chose the old-school method to create an engine canopy by carving and sanding balsa wood. All airplanes incorporate group collaboration, problem-solving skills, and hard work to complete the flying machine within the time constraints.

After a detailed checklist has been implemented, an airworthiness certificate is administered by the FAA, otherwise known as the instructor. Photos are taken and the class heads out to the flying field, also known as the soccer field. Flying skills among the students are various and most groups usually request the instructor to fly their plane around the patch to trim the controls. Some students, feeling confident from weeks of practice on the RealFlight RC flight simulator, will take their turns at the controls. All students revel in the joy of flight by any model as they recognize the hard work and dreams precariously bouncing through the sky. It is then that they truly understand Otto Lilienthal's words from long ago – *"To invent an airplane is nothing. To build one is something. To fly is everything."*

Over the past 20-plus years, the STMA Aviation Program has evolved and improved to include more private pilot ground school topics, improved model airplane designs for more consistent success, and incorporated outside resources, such as tours of the Minnesota National Guard's St. Cloud Army Aviation Support Facility at St. Cloud Regional Airport, St. Cloud, Minnesota (KSTC), and West Metro Aviation in Buffalo, Minnesota (KCFE), hosted by Michael Wiskus. Today, the STMA Aviation Program currently boasts two students who have soloed, three students in the University of North Dakota Aviation Program, and one student attending the Aviation Maintenance Program at Northland Community & Technical College. Many former students throughout the program's history have also found wonderful careers in the military and air traffic control.

Michael Wiskus of West Metro Aviation, and the pilot for Lucas Oil Airshows, gives students enrolled in the STMA Aviation Program a close-up tour of his biplane and aircraft maintenance facility. This field trip always delivers some great stories and an inspirational message from Wiskus.


Garrett Mourning and Brandon DiOrio get a little seat time in a Black Hawk helicopter at the Minnesota National Guard facility in St Cloud, Minnesota (KSTC).

One thing is for certain: the program will continue to change and improve. As Helen Keller once said, *"A bend in the road is not the end of the road… unless you fail to make the turn."* Even though there may not be any roads in the sky, the STMA Aviation Program will always be looking to improve its aviation education to inspire students.

EDITOR'S NOTE: Roger Bovee has been a technical education and engineering instructor at St. Michael-Albertville High School for the past 18 years, and a classroom teacher for 25 years. He holds a Private Pilot Certificate and is currently working on his Instrument Rating. Roger Bovee is a member of the Delta Aviation Flying Club in Buffalo, Minnesota (rogerb@stma.k12.mn.us).

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❑

The bifold liftstrap door is built on an aluminum frame with galvanized side rails. Top drive 460-volt 3-phase motors and strong liftstraps open the big door quickly and quietly. The door is also equipped with a keyed open/close switch.

The bifold liftstrap door has 12 windows that allow an ample amount of natural light into the hangar. Electric photo eye sensors were added to the 120-mph, wind-rated door, as an extra safety option.

High School Focuses Curriculum Around Flying

FAIRFAX, Minn., July 6, 2017 – The new Ross Shaw Sterling Aviation High School in Houston offers students the opportunity to attend a high school that focuses its curriculum around flying, including a chance to get flight certified. The new hangar holds the school's two aircraft behind a bifold liftstrap door from Schweiss Doors.

A student from Sterling Aviation School in Houston, Texas, is training on the Redbird MCX full-motion flight simulator. They also have a Redbird MX2 simulator and several desktop simulators. By the time students reach their junior year in high school, they are ready to be flight certified.

In 2014, staff, students and the community took part in the planning and design of the new Sterling Aviation High School. According to high school principal, Justin Fuentes, there aren't many high schools in the United States that offer this type of education, especially to the extent his school does.

"We are one of the few schools, if not the only school, that does the actual pilot certifications," Fuentes says. "Two years ago, we had a graduate who was accepted into the Naval Academy. We do have a Naval Junior ROTC program here."

Sterling's Naval Junior Reserve Officer Training Corps (NJROTC) detachment was first established on campus in May 1970. Graduating cadets incur no military service obligation, however, many have chosen to serve, covering every branch of the U.S. Armed Forces.

The new hangar is set up to hold two aircraft owned by the school. One of the Cessna aircraft is flyable; the other could be flyable in the future, but is used for students to learn the mechanics, repair and maintenance of the plane.

Thinking to the future and possible growth, the hangar design called for a door larger than presently needed. The bifold liftstrap aluminum frame door measures 49 feet, 6 inches wide by 20 feet, 2 inches high. It operates on a 460v 3-phase system with a top-drive motor. It has galvanized wind rails and side rails, a keyed switch entry system, electric photo eye sensors and is wind-rated for 120 mph. Two rows of six windows on each half of the door lets in an ample amount of daylight. Cadence McShane Construction of Addison, Texas, served as the general contractor on the project.

"It's opening up to a new type of education," Fuentes says. "It's gigantic, truly massive, and how it folds up, I hadn't expected that. I like the access it gives and think people will come just to see the door. People talked a lot about it during our grand opening, when masses of people walked into the building."

Plans for the new hangar area may include technical labs along the side looking out into the hangar. Students can be in the classroom, work in the lab space and do work inside the hangar, which is very different from any other school Fuentes has seen.

"Opposite of the door is a glass wall, so anybody entering our building, the first thing they see are the airplanes in the hangar and the door behind them and the classrooms alongside," Fuentes says. "So it's really a showpiece for our school and what we are trying to do for our students."

About 40 percent of Sterling graduates go directly into the workforce. The remainder go into the military or to universities and colleges. In 2015, the open enrollment school serving grade 9-12 registered 1,133 students, of which 99 percent were minority students. Fuentes estimates that 5-10 percent attend Sterling because of the flight program. He projects higher enrollment in the future.

In the high school aviation magnet program, students must take Federal Aviation Administration-approved base courses before being eligible to take up to 30 hours of flight time. Students may then take the FAA written examination.

"We do the training for the students to take the FAA examination, and then they do their actual piloting at a local vendor at Ellington Air Force Base," Fuentes says. "In our classrooms, we have two moving flight simulators. One of them is a Redbird MCX full-motion simulator and we have several desktop simulators as well. By the time a student enters 11th grade, providing they pass the FAA exams, they start flying."

The school's control tower is not operational, yet, but Fuentes says plans are to have it linked to airwaves at William P. Hobby International Airport, located about a mile from the school. Currently, students can listen to control tower communications and see aircraft landing and taking off.

Schweiss Doors is the premier manufacturer of hydraulic and bifold liftstrap doors, headquartered in Fairfax, Minn. Doors are custom made to any size for any type of new or existing building for architects and builders. Schweiss also offers a cable-to-liftstrap conversion package. For more information, visit www.bifold.com ❑

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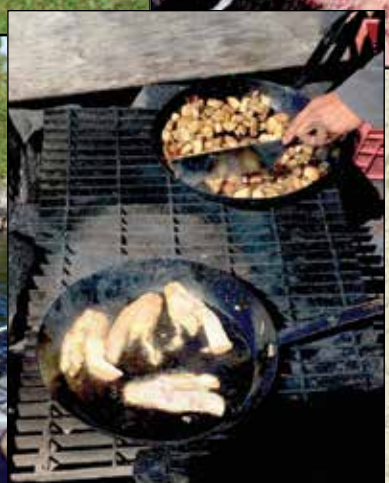

Calendar

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

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

Midwest Flyer Magazine is not responsible for the accuracy of, or reliance on, any information published.

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

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 (KMXO), 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.

6* **Humboldt (0K7), Iowa -** Breakfast 7am-Noon. 515-368-1714.

6* **Cresco (KCJJ), Iowa -** Breakfast 7:30am-Noon. 563-547-3434 Cresco Chamber. Website crescochamber.com/fly-in-breakfast

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 Buttermik Pancake, Sausage, Coffee, Juice & Milk Breakfast.

13* **Poplar Grove (C77), Ill. -** Pancake Breakfast.

13* **Boulder Junction (KBDJ), Wis. -** Musky Day Land & Sea Fly-In. Chicken Dinner at Noon with Fly-In beginning at 9am. Transportation to downtown activities 9am-3pm. Camp under wing Saturday nigh. CTAF 122.9 715-204-2928. kruegerfly@aol.com

15* **Juneau (KUNU), Wis. - Taco Tuesday at Dodge County Airport 5pm at Wisconsin Aviation.**

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 7-11:30am. 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* **New Lisbon (82C), Wis. -** Breakfast 7am, Lunch 10:30am goes until approx. 2:30pm.. On display aircraft of all types, classic & antique cars, antique to modern farm equipment, arts & crafts and baked goods. Fun for everyone.

2-3 **Ypsilanti, Mich. -** Blue Angels Performing.

2-4 **Cleveland, Ohio -** Thunderbirds Performing.

3* **Mauston (82C), Wis. -** Breakfast & Lunch at the Mauston-New Lisbon Union Airport.

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 (K0C2), 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 (KOEO), 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 **Freeport, 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.

15-17* **Oklahoma City (KNSD), OK. - Bonanza & Baron Pilot Training to register call 970-206-0182 or 817-988-0174. www.bonanzapt.com**

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.

17* **Hector (1D6). Minn. -** Pancakes, French Toast, Eggs, Sausage, Coffee, Juice & Milk Breakfast 7:30am-12:3 pm. Warbirds, Classics, Antiques, Homebuilt and Ultralights. Featured aircraft: ("Fagen's Fighters" – Grumman Wildcat.) Ping Pong Ball Drop with prizes for Kids at 11:15am. CTAF 122.8. Contact Ed Newberg

320-979-1270.

21-23* **Keokuk (EOK), Iowa -** Annual L-Bird Fly-In & Convention. Pancake Breakfast Saturday 23rd open to the public. 319-524-6203. www.lindneraviation.com

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 Women 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.

OCTOBER 2017

6-7 **Groton, Conn. - AOPA Fly-In at the Groton-New London Airport** www.aopa.org/community/events/aopa-fly-ins/2017-aopa-fly-ins

6-8* **Nashua (KASH), N.H. - Bonanza & Baron Pilot Training** to register call 970-206-0182 or 817-988-0174. www.bonanzapt.com

7-8* **Eagleville (TN14), Tenn. -** Just Plane Fun for Slow Flyers to hang out and enjoy the other similar aircraft. (Not for faster aircraft like RVs or warbirds). Designed for aircraft like Luscombe, Cessna 140, Aeronca, Cubs, Homebuilts, Light Sport, Hatz, Rans, Ultralight, etc. Welcome to come on Friday, Oct. 6 to camp out. 3600 Ft Grass Strip (1/19), Com 123.5, < 75 mph pattern speed. All patterns on west side of strip. Fly in or Drive in, Camping, Campfire Sat night (No fuel or showers on the field. Fuel at SYI 12 mi south). Will cook Breakfast and Dinner. The chapter email is chapt458@gmail.com. The chapter website is www.458.eaachapter.org.

8* **Poplar Grove (C77), Ill. -** Pancake Breakfast.

11-12 **Las Vegas, Nev. -** NBAA's Business Aviation Convention and Exhibition. info@nbaa.org

14 **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!

14* **South St Paul (KSGS), Minn. -** Annual Planes and Paws at the CAF Hangar, Fleming Field Airport 10am to 2pm.

20-22* **Concord (KCCR), Calif. - Bonanza & Baron Pilot Training** to register call 970-206-0182 or 817-988-0174. www.bonanzapt.com

27-28 **Tampa, Fla. - AOPA Fly-In at the Peter O. Knight Airport** www.aopa.org/community/events/aopa-fly-ins/2017-aopa-fly-ins

NOVEMBER 2017

3-5* **Norfolk (Korf), Virg. - Bonanza & Baron Pilot Training** to register call 970-206-0182 or 817-988-0174. www.bonanzapt.com

4* **Atchison (K59), Kan. -** Pumpkin drop, bonfire, and pumpkin pie competition at the Amelia Earhart Airport.

FEBRUARY 2018

11* **Mondovi, Wis. -** Log Cabin Airport Winter Fly-In. 44-34-29.8700N 091-32-49.5600W Elevation 850' Frequency 122.90 logcabinairport@**tcc.coop**

APRIL 2018

21* **Bloomington, Minn. -** Minnesota Aviation Hall of Fame at the Hyatt Regency Hotel. Registration is available January 1. www.mnaviationhalloffame.org

28* **Oshkosh (KOSH), Wis. -** French Toast Breakfast & explore the aviation training hangar and labs, visit with faculty and try out our full-motion Redbird flight simulators at S.J. Spanbauer Aviation & Industrial Center 8am-Noon. 920-236-6112. frost@fvtc.edu

MAY 2018

7-9* **Wisconsin Dells, Wis. -** Wisconsin Aviation Conference. wiama.org

18-20* **Brainerd, Minn. -** Minnesota Seaplane Pilots Association (MSPA) Safety Seminar Madden's on Gull Lake. www.mnseaplanes.com

JUNE 2018

2-3* **Blaine (KANE), Minn. -** Discover Aviation Days at Anoka County - Blaine Airport. 763-568-6072.

JULY 2018

23-29* **Oshkosh (OSK), Wis. - EAA AirVenture Oshkosh 2018.** www.eaa.org/en/airventure

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Gorak From Page 33

The Federal Aviation Administration named Gorak "Flight Instructor of the Year" for the United States in 1975. The National Association of Flight Instructors awarded him "Master Flight Instructor" status beginning in 1998. He received the "Wright Brothers Master Pilot Award" in 2012, and was inducted into the National Association of Instructors Hall of Fame in 2013, and the Wisconsin Aviation Hall of Fame in 2015. ❑

Education From Page 35

GAMA/Build A Plane Aviation Design Challenge Winners Build Glasair Sportsman

WASHINGTON, DC – Students and their teacher from Olney High School in Olney, Texas, won an all-expenses-paid trip to Glasair Aviation in Arlington, Washington, to spend two weeks building a Glasair Sportsman airplane, as the winners of the GAMA/Build A Plane 2017 Aviation Design Challenge. The winning team arrived in Arlington, Washington, on June 18 and departed on July 1, finishing the plane a day early.

The students assembled the Sportsman as part of the fifth annual Science, Technology, Engineering, and Mathematics (STEM) competition. The airplane's owner, Ken Baur, and his son, Mike, worked alongside the students to build the airplane. GAMA President and CEO Pete Bunce, former Jeppesen CEO Mark Van Tine, and other staff from GAMA and Jeppesen helped oversee the construction, led by Glasair Aviation staff. Additionally, Siemens Government Technologies CEO Barbara Humpton and a team from Click Bond visited the plant during the building project. The Sportsman is a kit airplane that can be assembled in two weeks through Glasair's "Two Weeks To Taxi" program.

The 2017 Aviation Design Challenge is sponsored by Air Tractor, BBA Aviation, Bose Corporation, Click Bond,

Embraer, Garmin International, Glasair Aviation, Gulfstream Aerospace, Jeppesen, Jet Aviation, JSSI, Redbird Flight Simulations, Siemens, Textron Aviation and Wipaire Inc.

To learn more about the organizations involved in the project, visit gama.aero, buildaplane.com, glasairaviation.com and flytolearn.com. ❑

Western Michigan University Celebrates Launch of Punta Gorda Aviation Program

PUNTA GORDA, FLA. – Western Michigan University's (WMU) leadership and community officials gathered April 13, 2017, to celebrate WMU's Charlotte County Aviation Collective and the launch of its aviation flight science program in Florida this fall.

WMU's Charlotte County Aviation Collective was developed to guide the university's College of Aviation expansion into Southwest Florida, and includes leadership from the WMU College of Aviation, Charlotte County Airport Authority, City of Punta Gorda, Charlotte County and the Enterprise Charlotte Economic Council. ❑

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